IFDC Corporate Report, 2002/2003

IFDC Mixes the Right Ingredients for Bread for Peace

Contents

Zambia at sunset.

Photo by M. Feisal Beig

About the Cover:

The dominant photograph on the cover depicts an Afghan woman preparing naan (bread) for her family. The other photos show an Afghan farmer preparing a field for planting and another inspecting his wheat crop.

All cover photographs by Dr. Thomas P. Thompson, IFDC Senior Sociologist.

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"With its broad-based holistic approach to agricultural development, IFDC is making a significant impact on the lives of developing-country citizens because it brings the right mix of elements to bear in the process."

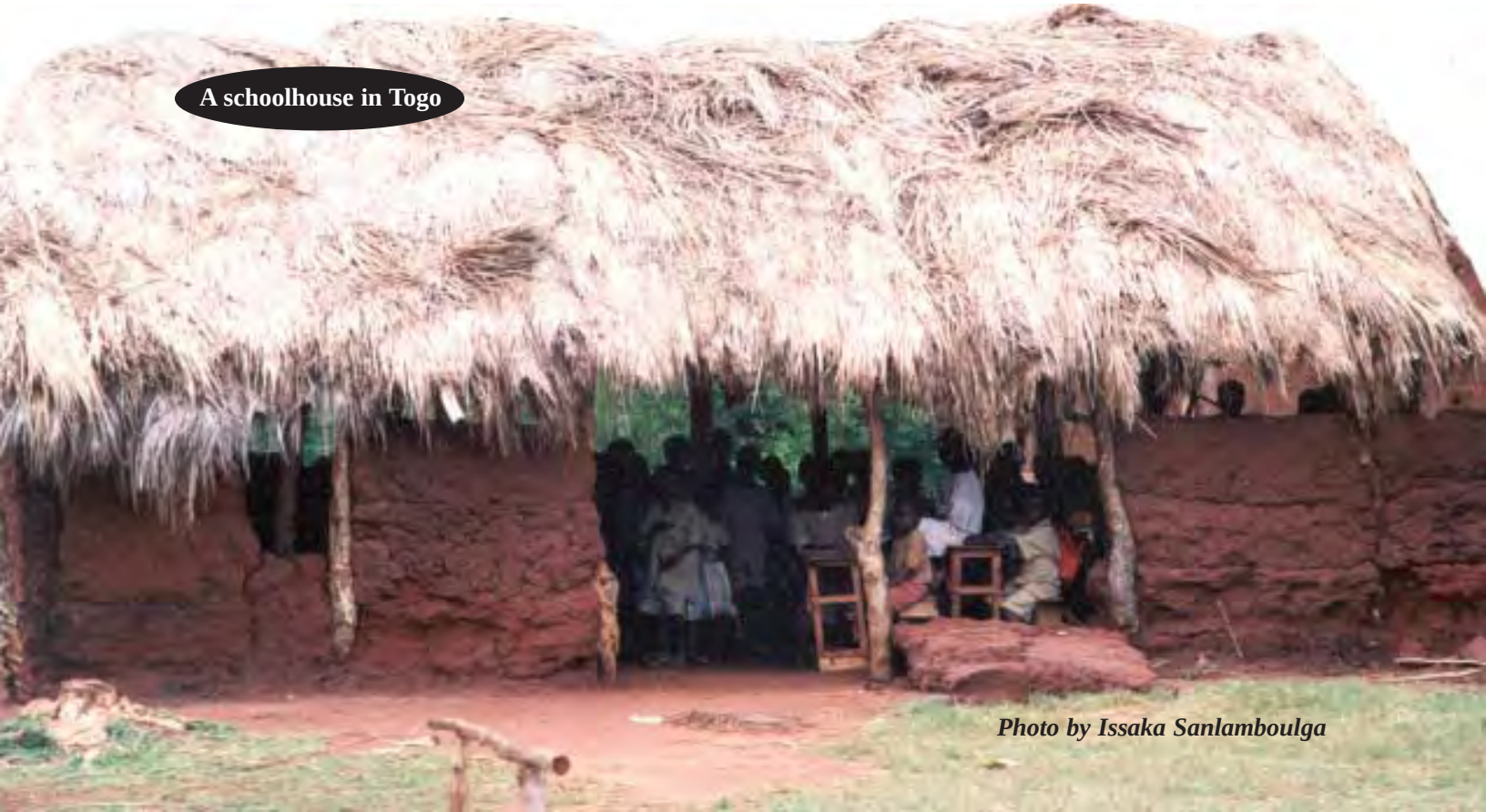
—Dr. E. Travis York, IFDC Chairman of the Board

A Conversation with E. Travis York, Chairman of the Board

Today the world is increasingly concerned with terrorism and civil unrest. It has been said that there is a nexus between hunger, poverty, and terrorism. Is IFDC contributing to solving these problems and helping to create a more peaceful world?

Hungry people will not be peaceful people for very long. People everywhere cannot accept existence without adequate food. IFDC is a significant contributor to world peace through its programs to improve food production and strengthen the agricultural economies of developing nations. IFDC's unique paradigm for sustainable agricultural and economic development is producing remarkable results. Because of our holistic development programs in such countries as Afghanistan, Albania, Bangladesh, and Kosovo, more food is being harvested to feed the people, and they can better afford to educate their children, provide better housing for their families, and enjoy more meaningful lives.

Former U.S. President Jimmy Carter said, "An often overlooked path to peace is to raise the standard of living of the millions in poverty by increasing agricultural productivity. Not only does agriculture put food on the table, but it also provides



A schoolhouse in Togo

Photo by Issaka Sanlamboulga

jobs, both on and off the farm, which raises incomes. Thriving agriculture is the engine that fuels broader economic growth and development, thus paving the way for prosperity and peace." Is IFDC helping to "fuel broader economic growth and paving the way for prosperity and peace"? In what way?

Through its many agricultural and economic development initiatives, IFDC is a substantial contributor to strengthening the agricultural economies of many developing countries and, by so doing, is contributing to more rapid economic growth and improved standards of living in these countries. Examples can be found in the advances that the Center has realized in such countries as Albania, where IFDC has created the country's first free market system for agriculture. This program and many others like it have made significant strides toward the economic development of the emerging market economies.

Is IFDC pursuing the most appropriate agenda? If not, what avenues would you like to see the Center exploring?

This is an issue to which the IFDC Board of Directors and Management have devoted much attention. In recent years our programs have evolved from a primary emphasis on plant nutrients and soil fertility to more broad-based agricultural development issues, including but not limited to its original mission. The departure from its original path has garnered many more successes in the agricultural development arena for IFDC. Because the Center's Management and the Board of Directors realized that development is a multifaceted venture, outstanding achievements have accrued exponentially.

What does the future hold for an organization like IFDC?

IFDC is proud to be among the primary international agricultural research centers (IARCs), which have contributed much to improve agricultural performance around the world in recent decades. IFDC, however, is unique in that its activities are not limited to research. Indeed, it has a much broader development mission that enables it to engage in meaningful programs and activities in which IARCs normally are not involved. IFDC can, therefore, deal with many constraints to improved agricultural and economic development other than those addressed by research centers.

What will be the greatest challenge to agricultural development during the next 50 years? Will it be water scarcity? Population pressures? Food distribution? Poverty?

Many problems and constraints will confront agricultural development efforts in the years ahead. These include such issues as continued population pressures; declining soil fertility; a lack of needed inputs and markets; the continuing need for improved technology; the need for improved infrastructure, including roads and transportation facilities; available credit—especially for low-income producers; adequate agricultural education, including extension; a shortage of productive land; adequate water resources; and others. These many constraints point to the need for broad-based, holistic approaches to agricultural development, which IFDC has a unique potential to carry out. Therefore, IFDC will continue to be a vital force in the international agricultural development arena for years to come.

"Con su amplio enfoque holístico en el desarrollo agrícola, el IFDC está teniendo un impacto apreciable en las vidas de los ciudadanos de países en vías de desarrollo porque contribuye precisamente los elementos necesarios al proceso."

—Dr. E. Travis York, Presidente de la Junta Directiva del IFDC

Una Conversación con E. Travis York, Presidente de la Junta Directiva

Hoy en día el mundo se está preocupando más por el terrorismo y el malestar social. Se ha dicho que hay una conección entre el hambre, la pobreza, y el terrorismo. ¿Está el IFDC ayudando a resolver estos problemas y a crear un mundo más pacífico?

La gente hambrienta no será gente pacífica indefinidamente. La gente no puede existir sin alimentos adecuados. El IFDC contribuye apreciablemente a la paz mundial por medio de sus programas para mejorar la producción de alimentos y fortalecer las economías agrícolas de países en vías de desarrollo. El paradigma excepcional del IFDC de desarrollo agrícola y económico sostenible está dando resultados notables. Gracias a nuestros programas de desarrollo holísticos en países tales como Afganistán, Albania, Bangladesh, y Kosovo, se está cosechando mas comida para la gente, y les alcanza más el dinero para educar a sus hijos, proveer vivienda para su familia y gozar de una vida más significativa.

El Dr. Walter T. Bowen, Lider del Programa de Investigación de Suelos y Dinámica de Nutrientes, evaluando un experimento de papa en Cajamarca, Perú, con el Ing. M. Sc. Héctor Cabrera y el Ing. Estuardo Regalado.

Fotografía por Guillermo Baigorria, CIP

El expresidente de los EE.UU. Jimmy Carter dijo, "Una vía a la paz que muchas veces se pasa por alto es la de mejorar la calidad de vida de los millones que viven en pobreza aumentando la productividad agrícola. La agricultura no sólo produce comida, sino que también proporciona trabajos, en la granja y fuera de ella, y sube los sueldos. La agricultura próspera es la máquina que alimenta el crecimiento y el desarrollo, preparando así el terreno para la prosperidad y la paz." El IFDC está ayudando a "alimentar el crecimiento económico y a preparar el terreno para la prosperidad y la paz"? ¿De qué manera?

Por medio de iniciativas de desarrollo agrícola y económico, el IFDC contribuye apreciablemente al fortalecimiento de las economías de muchos países en vías de desarrollo, y a la vez contribuye a un crecimiento económico más rápido y a un mejoramiento del nivel de vida. Se encuentran ejemplos en los adelantos que el Centro ha realizado en países tales como Albania, donde el IFDC ha creado el primer sistema de mercado libre agrícola del país. Este programa y muchos otros similares han hecho grandes progresos hacia el desarrollo económico de las economías de mercado emergentes.

¿Está continuando con la agenda apropiada el IFDC? Si no, ¿cuáles avenidas cree usted que podría explorar el Centro?

Es un asunto al cual la Junta Directiva del IFDC y la Administración se han dedicado mucho. En los últimos años nuestros programas han evolucionado de un énfasis primario en nutrientes de plantas y fertilidad de suelos a asuntos de desarrollo agrícola más amplios, incluyendo pero no limitados a su misión original. Para el IFDC, la desviación de su camino original ha sido muy exitosa en el área del desarrollo agrícola. El IFDC ha ido acumulando logros sobresalientes en forma exponencial porque la Administración y la Junta Directiva del Centro comprendieron que el desarrollo es una empresa multifacética.

¿Cómo será el futuro de organizaciones como el IFDC?

El IFDC tiene el orgullo de ser uno de los mejores centros internacionales de investigaciones agrícolas (IARCs), que han contribuido mucho al adelanto del rendimiento agrícola en las últimas décadas. Sin embargo, el IFDC es excepcional ya que sus actividades no se limitan a las investigaciones. Incluso, tiene una misión de desarrollo mucho más amplia que le permite dedicarse a programas y actividades importantes en los cuales no participan normalmente los IARCs. Por eso el IFDC puede trabajar superando muchas restricciones al desarrollo agrícola y económico además de las que se tratan tradicionalmente en los centros de investigaciones agrícolas.

¿Cuál será el mayor impedimento al desarrollo agrícola en los próximos 50 años? ¿Será la escasez de agua? ¿Presiones de población? ¿Distribución de alimentos? ¿Pobreza?

En los próximos años, los esfuerzos del desarrollo agrícola enfrentarán muchos problemas y restricciones. Estos incluyen asuntos como la continuación de presiones de población; la

disminución de la fertilidad de los suelos; la falta de insumos y mercados; la necesidad continua de adelantos en la tecnología; la necesidad de mejor infraestructura, incluyendo carreteras y facilidades de transporte; crédito disponible — especialmente para los que ganan muy poco dinero; educación agrícola adecuada incluyendo servicios de extensión; escasez de suelos productivos; recursos adecuados de agua; y otros. Estas muchas restricciones señalan a la necesidad de tener enfoques amplios y holísticos al desarrollo agrícola, y el IFDC tiene un potencial excepcional para llevar a cabo estos enfoques. Por eso el IFDC continuará siendo una fuerza vital en el área del desarrollo agrícola internacional en el futuro.

"Avec son approche multisectorielle et holistique du développement agricole, l'IFDC a un impact considérable sur la vie des citoyens des pays en développement parce qu'il apporte le juste mélange d'éléments susceptibles d'influer sur le processus."

—Dr E. Travis York, Président du Conseil d'administration de l'IFDC

Un entretien avec E. Travis York, Président du Conseil d'administration de l'IFDC

Le monde est de plus en plus préoccupé par le terrorisme et l'agitation sociale. Il y aurait un lien entre la faim, la pauvreté et le terrorisme. L'IFDC contribue-t-il à résoudre ces problèmes et à créer un monde plus pacifique ?

Les peuples affamés ne seront plus pour longtemps des peuples pacifiques. Personne au monde ne peut accepter une existence sans nourriture adéquate. L'IFDC contribue de façon significative à la paix dans le monde par ses programmes qui visent à améliorer la production alimentaire et à renforcer les économies agricoles des nations en développement. Le paradigme de l'IFDC pour le développement agricole et économique durable produit des résultats remarquables. Grâce à nos programmes de développement holistiques mis en oeuvre dans des pays comme l'Afghanistan, l'Albanie, le Bangladesh et le Kosovo les récoltes vivrières sont plus abondantes et les familles ont plus de moyens pour se nourrir, éduquer leurs enfants, s'assurer un logement décent et profiter d'une meilleure qualité de vie.

Photo Walter T. Bowen

L'ancien Président des Etats-Unis, Jimmy Carter a déclaré : "Une voie de paix souvent ignorée est d'élever le niveau de vie des millions de gens touchés par la pauvreté en augmentant la productivité agricole. Non seulement l'agriculture met de la nourriture sur les tables, elle offre aussi des emplois agricoles et non agricoles et augmente les revenus. Une agriculture performante est le moteur de la croissance économique et du développement ouvrant ainsi la voie à la prospérité et à la paix." Pouvez-vous dire que l'IFDC aide à accélérer la croissance économique, ouvrant la voie à la prospérité et à la paix ?

Grâce à ses nombreuses initiatives agricoles et économiques, l'IFDC collabore au renforcement des économies de nombreux pays en développement et ce faisant contribue à accélérer la croissance économique et à améliorer le niveau de vie dans ces pays. Les progrès réalisés dans des pays comme l'Albanie où l'IFDC a établi le premier système de marché libre pour l'agriculture sont des exemples à cet égard. Ce programme et beaucoup d'autres similaires ont permis de grands bonds vers le développement des économies de marché émergeantes.

L'agenda de l'IFDC est-il le plus approprié ? Sinon quelles avenues souhaitez-vous voir explorer ?

C'est une question à laquelle la Direction et le Conseil d'administration de l'IFDC ont mûrement réfléchi. Au cours des dernières années, nos programmes ont évolué, l'attention initialement centrée sur les éléments nutritifs des plantes et la fertilité des sols porte depuis sur des questions de développement agricole plus vastes incluant mais ne se limitant pas à la mission originelle du Centre. L'élargissement de la voie initiale a valu à l'IFDC bien des succès dans l'arène du développement agricole international. Du fait que la Direction et le Conseil d'administration du Centre ont compris que le développement est une entreprise à multiples facettes, des réalisations remarquables se sont accumulées de façon exponentielle.

Que réserve l'avenir pour une organisation comme l'IFDC ?

L'IFDC est fier de figurer aujourd'hui parmi les premiers centres internationaux de recherche agricole (CIRA) qui ont énormément contribué à améliorer la productivité agricole à travers le monde durant les dernières décennies. L'IFDC a cependant la particularité de ne pas limiter ses activités à la recherche. En fait, le Centre a une mission de développement beaucoup plus vaste qui lui permet de mettre en œuvre des activités et des programmes pertinents, dans lesquels les CIRA ne sont normalement pas impliqués. Ainsi, l'IFDC peut s'attaquer à de nombreux problèmes de développement agricole et économique, qui ne sont pas traités par les autres centres de recherche.

Quel sera le plus grand défi de développement agricole durant les 50 prochaines années ? Rareté de l'eau ? Pression démographique ? Distribution alimentaire ? Pauvreté ?

Les efforts de développement agricole se heurteront à de nombreux problèmes et contraintes dans les prochaines années dont : la pression démographique continue ; le déclin de la fertilité des sols ; le manque d'intrants et de marchés ; le besoin permanent de meilleures technologies ; le manque d'infrastructures adéquates dont les routes et les moyens de transport ; le problème de disponibilité de crédit particulièrement pour les producteurs à faibles revenus ; la nécessité d'une éducation agricole et de la vulgarisation ; le manque de terres productives et de ressources en eau ; et autres. Cette longue liste met en relief la nécessité de l'approche holistique que l'IFDC est capable de mettre en œuvre grâce au caractère unique de son potentiel. Aussi, l'IFDC restera-t-il une force vitale dans l'arène du développement agricole international durant les années à venir.

"By mixing the right ingredients, IFDC is reaping results with our holistic approach to sustainable agricultural development—We are producing 'Bread for Peace.'"

—Dr. Amit H. Roy, IFDC President and Chief Executive Officer

A Conversation With Amit H. Roy, President and Chief Executive Officer

How would you characterize IFDC's unique approach to sustainable agricultural development?

Our holistic approach to sustainable agricultural development, which encompasses many segments of the development process, puts the welfare of people—our beneficiaries—first. We believe that our work will only be successful to the extent that it improves the livelihood of our beneficiaries, such as the Afghan woman preparing naan (bread) for her family, as depicted on the cover of this year's corporate report. Her hope for a brighter future for herself and her children has a better chance of being realized because of IFDC's accomplishments in her country. We are helping to make her dreams come true—we are working to ensure that she has more food on her table and more money in her pockets to

Dr. Amit H. Roy visits a school in Lomé, Togo.

Photo by Issaka Sanlamboulga

buy the necessities of life, to send her children to school, and to buy better clothing for her family. We feel that our solutions must always be win/win solutions. We endeavor to focus on the needs of society and design our programs based on the assessment of those needs. We always try to adapt our solutions to the particular area of the world on which we are focusing.

What do you consider three of IFDC's most significant accomplishments during 2002/03?

Our achievements in Afghanistan probably represent our most significant accomplishments during 2002/03. The bread on the Afghan farmers' tables is evidence that we are making a difference for Afghanistan. In fact, because of our impact on Afghanistan's agricultural situation, the country's farmers realized an 80% increase in wheat production in 2002 over the previous harvest. Moreover, Afghanistan will likely be self-sufficient in wheat production during 2003. The second significant achievement relates to the Integrated Soil Fertility Management (ISFM) work in sub-Saharan Africa. The ISFM concept—an IFDC-developed package of inputs and practices that raises the agricultural productivity level while maintaining the natural resource base—is catching on in the international agricultural development arena and is making significant strides. Third, the realization of the urea supergranule (USG) technology is now showing that we can address the issues of sustainability, the environment, and productivity all at once. This is another win/win situation.

What are your goals for IFDC for 2004?

My goal for IFDC in 2004 is to forge ahead on the pathway to growth that we have embarked upon during the past 2 years, particularly in Africa. We will be increasingly involved in Africa, especially in the new initiative—the New Partnership for Africa's Development (NEPAD), which represents a pledge by African leaders based on a common vision to eradicate poverty and to place their countries on the path to development. We hope to work with NEPAD to achieve the priorities that they have established. We will be conducting research to improve nutrient efficiency and soil fertility—two extremely important issues for sub-Saharan agriculture.

What will be the primary challenges for IFDC in the future?

One of the challenges that I envision for the future is to keep agriculture in the forefront of the development agenda of donor countries and the developing countries. If we are successful in this regard, the resources needed to realize development goals will follow. The second challenge that I see involves various diseases, such as HIV AIDS, which is having a tremendous impact on agriculture and affecting the labor force available to contribute toward agricultural goals. Third, agriculture is becoming more knowledge based. If the developing countries are to use the information that they receive, their governments must apply adequate resources toward education so that their people will be prepared to use the information.

"Mezclando los ingredientes correctos, el IFDC está cosechando resultados para el desarrollo agrícola sostenible con nuestro enfoque holístico – Producimos 'Pan para la Paz.' "

—Dr. Amit H. Roy, Presidente y Jefe Ejecutivo del IFDC

Una Conversación Con Amit H. Roy, Presidente y Jefe Ejecutivo

¿Cómo caracterizaría el enfoque excepcional del IFDC para el desarrollo agrícola sostenible?

Nuestro enfoque holístico para el desarrollo agrícola sostenible, que abarca muchos segmentos del proceso de desarrollo, pone el bienestar de la gente — nuestros beneficiarios —de primero. Creemos que nuestro trabajo tendrá éxito si mejora el sustento de nuestros beneficiarios, tales como la mujer afgana preparando naan (pan) para su familia, como se ve en la portada de este informe anual. Ella tendrá más posibilidad de realizar sus esperanzas por un futuro prometedor para ella y para sus hijos, gracias a los logros del

El Dr. Amit H. Roy revisa la calidad del maiz en un mercado Togolés.

Fotografía por Issaka Sanlamboulga

IFDC en su país. Nosotros estamos ayudando a que sus sueños se hagan realidad — estamos trabajando para asegurar que ella tenga más comida en la mesa y más dinero en los bolsillos para comprar lo indispensable, para mandar a sus hijos a la escuela, y para comprar mejor ropa para su familia. Pensamos que nuestras soluciones deben siempre beneficiar a todos. Siempre nos esforzamos a concentrarnos en las necesidades de la sociedad y en diseñar nuestros programas basados en la realización de esas necesidades. Siempre intentamos adaptar nuestras soluciones al área particular del mundo en la cual estemos trabajando.

Cuáles considera ser los tres logros más importantes del IFDC durante los años 2002/03?

Nuestras realizaciones en Afganistán probablemente representan los logros más significativos del IFDC durante 2002/03. El pan en las mesas de los agricultores afganos demuestra que se están obteniendo beneficios en Afganistán. De hecho, a causa de nuestras actividades en la situación agrícola de Afganistán, los agricultores del país pudieron obtener un aumento del 80% en la producción de trigo en el 2002 sobre la cosecha del año anterior. Además, Afganistán en toda probabilidad podrá auto abastecerse en la producción de trigo para el 2003. El segundo logro importante tiene que ver con el trabajo relacionado con el Manejo Integrado de Fertilidad de Suelos (ISFM) en el sub-Sahara africano. El concepto de ISFM — un paquete de insumos y prácticas desarrollado por el IFDC para aumentar el nivel de productividad agrícola manteniendo la base de recursos naturales —está cogiendo fuerza en el área de desarrollo agrícola internacional. El tercer logro es que la tecnología de la urea supergranular (USG) muestra que podemos resolver problemas de la sostenibilidad, el medio ambiente y la productividad simultáneamente. Esta es otra situación done todos se benefician al tiempo.

¿Cuáles son sus metas para el IFDC para el 2004?

Mi meta para el IFDC en el 2004 es continuar adelante hacia el camino de crecimiento que hemos tomado durante los últimos dos año, particularmente en el Africa. Seguiremos aumentando nuestros esfuerzos en el Africa, especialmente en la nueva iniciativa — la Nueva Asociación para el Desarrollo del Africa (NEPAD), que representa una promesa solemne de los líderes africanos basada en una visión común para erradicar la pobreza y enrrumbar a sus países hacia el desarrollo. Esperamos trabajar con NEPAD para lograr las prioridades que ellos han establecido. Realizaremos investigaciones para mejorar la eficiencia de nutrientes y fertilidad de suelos — dos asuntos muy importantes para la agricultura del sub-Sahara africano.

¿Cuáles serán los principales retos para el IFDC en el futuro?

Uno de los retos que yo veo para el futuro es mantener la agricultura en primer plano en la agenda de desarrollo de los países donantes y de los países en vías de desarrollo. Si tenemos éxito en ésto, los recursos que se necesitan para realizar las metas de desarrollo se obtendrán. El segundo reto que preveo, tiene que ver con enfermedades como el VIH SIDA que está teniendo un impacto significativo en la agricultura y está afectando a la fuerza laboral disponible para lograr las metas agrícolas. El tercer reto es que la agricultura actualmente se base grandemente en conocimientos. Los gobiernos deberán proveer recursos adecuados hacia la educación, para que los agricultores en los países en vías de desarrollo puedan usar la información que reciben.

"En mélangeant les bons ingrédients l'IFDC engrange de bons résultats grâce à son approche holistique du développement agricole durable – Nous produisons du Pain pour la Paix"

—Dr Amit H. Roy, Président - Directeur Général de l'IFDC

Un entretien avec Dr Amit Roy, Président - Directeur Général de l'IFDC

Qu'est-ce qui fait la spécificité de l'approche de l'IFDC en matière de développement agricole durable ?

Notre approche holistique du développement agricole durable qui englobe plusieurs segments du processus de développement et place avant tout le bien-être des populations – nos bénéficiaires. Nous croyons que notre travail ne sera couronné de succès que s'il contribue à améliorer les conditions d'existence de nos bénéficiaires, comme cette femme afghane préparant le naan (pain) pour sa famille, qui figure sur la page de couverture du rapport annuel de cette année. Son espoir d'un meilleur futur pour elle-même et pour ses enfants a plus de chances de se concrétiser grâce aux réalisations de l'IFDC dans son pays. Nous aidons à réaliser ses rêves – nous travaillons à assurer plus de nourriture sur sa table

Dr. Amit H. Roy, IFDC President and Chief Executive Officer, discusses soil fertility improvement with Togolese farmers.

Photo Issaka Sanlamboulga

et plus d'argent dans ses poches pour acheter les choses nécessaires de la vie, envoyer ses enfants à l'école et habiller sa famille. Nous pensons que nous devons toujours tendre vers des "win/win" solutions. Nous nous efforçons de nous concentrer sur les besoins sociaux et nos programmes sont conçus sur la base de l'évaluation de ces besoins. Nous essayons toujours d'adapter nos solutions aux régions spécifiques du monde où convergent nos efforts.

Quelles sont selon vous les réalisations les plus importantes de l'IFDC au cours de l'année 2002/2003 ?

Nos réalisations en Afghanistan sont probablement les plus importantes de l'année 2002/2003. Le pain disponible sur la table des agriculteurs afghans témoigne de la différence que nous faisons dans ce pays. L'impact de nos activités sur l'agriculture de l'Afghanistan, se traduit par une augmentation de 80% de la production paysanne de blé en 2002 par rapport à la récolte précédente. De plus, le pays pourrait atteindre l'autosuffisance en blé en 2003. Le deuxième importante réalisation concerne la Gestion Intégrée de la Fertilité des Sols (GIFS) en Afrique subsaharienne. Le concept GIFS élaboré par l'IFDC – un paquet d'intrants et de pratiques qui augmentent le niveau de la productivité agricole tout en maintenant la base de ressources naturelles – a fait du chemin dans l'arène du développement agricole international et de grands progrès ont été faits dans ce domaine. La troisième réalisation concerne la technologie du super granule d'urée, qui montre que nous pouvons traiter en même temps des questions de durabilité, d'environnement et de productivité. C'est un autre type de win/win situation.

Quels sont vos objectifs pour l'IFDC en 2004 ?

Mon objectif pour l'IFDC en 2004 est de pousser de l'avant sur la voie de la croissance où nous sommes engagés les deux dernières années, particulièrement en Afrique. Nous serons de plus en plus impliqués en Afrique, spécialement dans le cadre du Nouveau Partenariat pour le Développement de l'Afrique (NEPAD) qui incarne l'engagement des leaders africains, sur la base d'une vision commune, à réduire la pauvreté et à conduire leurs pays sur la voie du développement. Nous espérons travailler avec le NEPAD à la réalisation des objectifs prioritaires définis. Nous poursuivrons les recherches visant à améliorer l'efficacité des éléments nutritifs et la fertilité des sols – deux domaines extrêmement importants pour l'Afrique subsaharienne.

Quels seront les principaux défis pour l'IFDC dans l'avenir ?

L'un des grands défis que j'entrevois est de maintenir l'agriculture au premier plan de l'agenda de développement des pays donateurs et des pays en développement. Si nous y parvenons, les ressources nécessaires pour atteindre les objectifs de développement suivront. Le second défi est lié à diverses maladies telles que le SIDA, qui ont un impact désastreux sur l'agriculture puisqu'elles affectent la main-d'œuvre disponible pour contribuer aux objectifs de développement agricole. Le troisième défi est lié au fait que l'agriculture est de plus en plus basée sur les connaissances. Pour que les populations des pays en développement soient préparées à utiliser les informations qu'elles reçoivent, les gouvernements doivent investir des ressources adéquates dans l'éducation.

What

We Do

What We Do . . . Our Program Goals

IFDC—An International Center for Soil Fertility and Agricultural Development—is a nonprofit, public international organization that combines state-of-the-art research and development to address issues such as the alleviation of global poverty, the promotion of economic development, the reduction of hunger, and the protection of the environment through collaborative programs and partnerships that enrich and sustain the lives and livelihoods of poor people around the world. This unique combination of research capabilities and market development and training skills has enabled IFDC to develop incentive-based programs that are customized for local needs and problems.

Uniqueness and Goal

IFDC is the world's only nonprofit, science-based organization with the mandate to address the integrated soil nutrient management needs associated with moving toward a sustainable global food system. The Center's goal is to increase agricultural productivity in a sustainable manner through the development and transfer of effective and environmentally sound plant nutrient technology and agricultural marketing expertise.

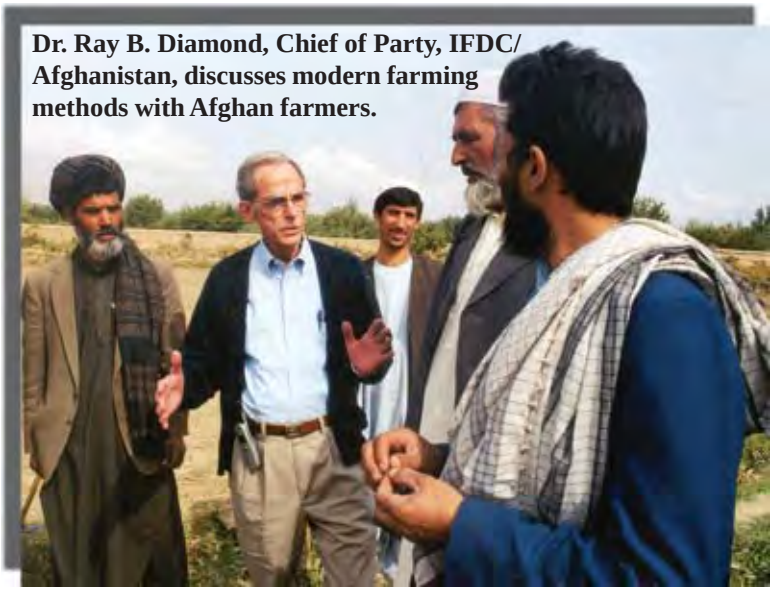
Eight Thematic Programs

IFDC's work is organized around eight thematic programs. These programs include: Institutional Development, Economics and Policy Development, Fertilizer Materials, Soil and Nutrient Dynamics, Integrated Intensification, Input Accessibility, Policy and Market, and Human Capacity Building. Descriptions of these programs follow.

Institutional Development Program

The main function of the Institutional Development Program is to increase agricultural production through the creation, development, and nurturing of a private sector that will undertake the various functions necessary to enhance agricultural productivity. Specific objectives are to:

- Identify problems and opportunities related to agricultural input and output market development in developing and emerging market economy countries;
- Design programs (with our partners) that address development assistance needs;
- Implement development projects that create agricultural markets.



Dr. Ray B. Diamond, Chief of Party, IFDC/ Afghanistan, discusses modern farming methods with Afghan farmers.

Photo by Larry Klaas

Economic and Policy Development Program

An Afghan agricultural inputs dealer.

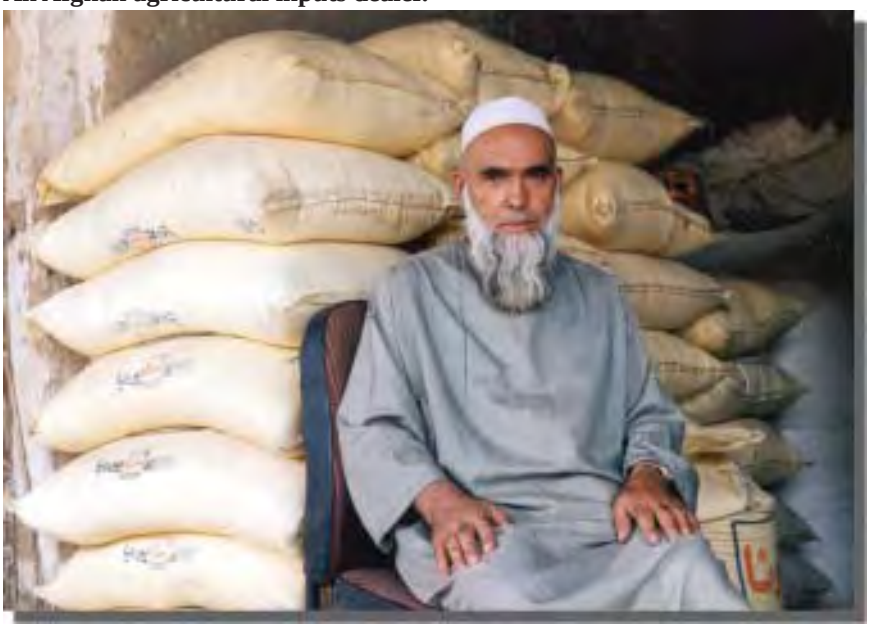


Photo by Ross Everson

The main function of the Economic and Policy Development Program is to provide policy and economics expertise as needed to support the achievement of the IFDC mission. An enabling policy environment has been recognized worldwide as an essential prerequisite for developing agricultural markets. Macroeconomic stability, non-distorted pricing environment, and enforceable regulatory frameworks are pillars to support well-functioning and efficient markets. The Program ensures through market assessment work, project development and advisory services, and policy analysis and dialogue that developing and transitional economies provide an enabling environment for agricultural markets. This program is also involved in analyzing the feasibility of investment programs, socioeconomic suitability of new technologies, implications of multilateral trade agreements for agriculture and agribusiness, and economic and policy measures needed to protect the environment. The Economic and Policy Development Program has completed several policy and market assessment studies including *An Action Plan for Developing Sustainable Input Supply Systems in Malawi*, *An Action Plan for Developing Sustainable Input Supply Systems in Ghana, An Action Plan for Developing Sustainable Input Supply Systems in Uganda, Agricultural Input Markets in Nigeria: An Assessment and A Strategy for Development,* and *Implications of the Uruguay Round Agreements for Agriculture and Agribusiness in Bangladesh.*

Fertilizer Materials Program

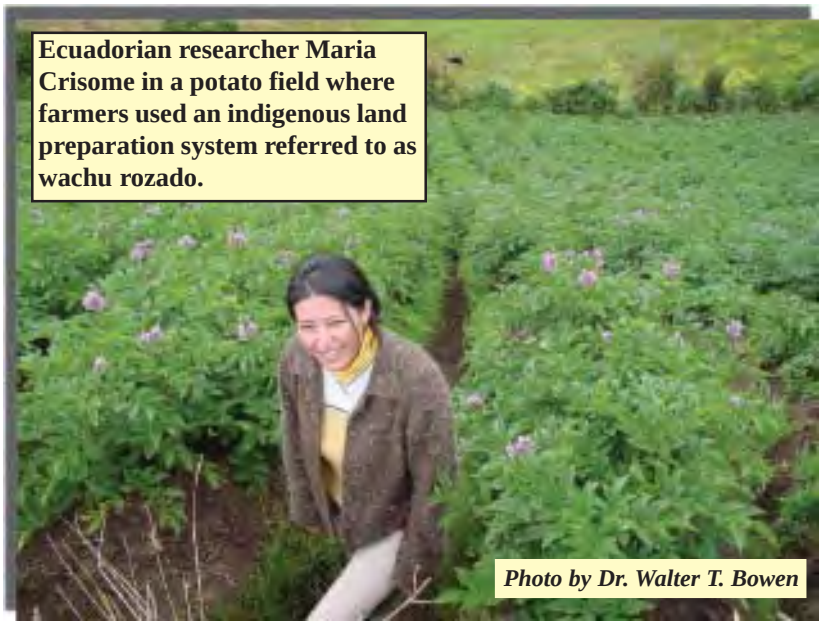
The main functions of the Fertilizer Materials Program are to conduct research and development projects that characterize and identify the most efficient use of fertilizer raw materials including phosphate rock and to develop processes to use these raw materials in fertilizer production. The program can be divided into five main areas of emphasis:

- Use of indigenous resources;
- Characterization and evaluation of raw materials;
- Fertilizer properties and production;
- Development of organic-inorganic nutrient products; and
- Environmental issues in fertilizer production.

The program engages in contractual arrangements and research projects in collaboration with private companies, government organizations, and international organizations. Production economics and environmental issues as they relate to developing-country agriculture are of particular concern.

Soil and Nutrient Dynamics Program

The goal of the Soil and Nutrient Dynamics Program is the increased production of food and fiber in a more economical, sustainable, and environmentally sound manner in the developing countries. The Program's main function is to understand, identify, and apply mechanisms to foster the adoption of agronomic technologies and socioeconomic measures that enhance the efficiency of: (1) nutrient use by crops, (2) nutrient recycling, and (3) soil fertility improvement. Improved fertilizer use recommendations, risk assessment, sustainability indices, and environmental impact assessment are developed through the use of analytical methods, remote sensing, and decision support systems designed to account for interactions of soil properties, climate change, crops, nutrient management, available inputs, and socioeconomic factors. The program works closely with advanced research organizations (AROs), universities, IARCs, and national agricultural research and extension systems (NARES) from developing countries.



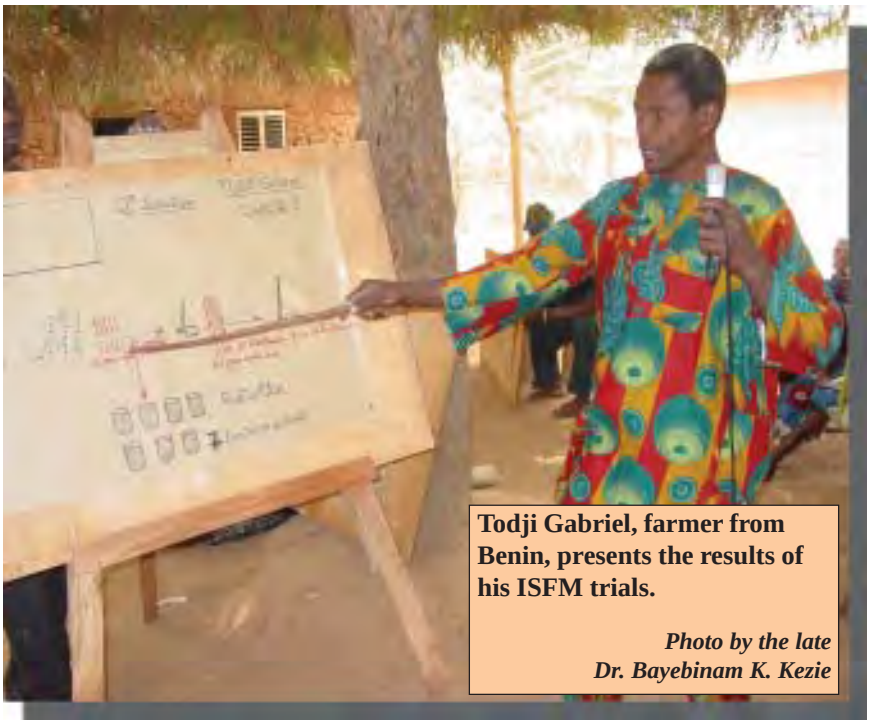
Ecuadorian researcher Maria Crisome in a potato field where farmers used an indigenous land preparation system referred to as wachu rozado.

Photo by Dr. Walter T. Bowen

Integrated Intensification Program

The Integrated Intensification Program focuses on ISFM technologies to improve the economic feasibility of fertilizer use in Africa and to decrease its environmental risks by increased use efficiency. These technologies integrate the use of soil amendments and inorganic fertilizer and lead to increased availability and accessibility of plant nutrients due to improvement and maintenance of soil quality. Locally available sources of organic matter are the main soil amendments. Their availability and quality increase progressively because of the use of inorganic fertilizers and the progressive improvement of the soil organic matter status. "One-time" investments of phosphate rock and lime can still enhance the efficiency and profitability of inorganic fertilizers

and other external inputs. Such investments will benefit not only farming communities but also society as a whole. This implies cost sharing among all beneficiaries and firm governmental commitment in the form of a national soil fertility action plan for which support and expertise can be obtained through IFDC. The development and promotion of ISFM technologies require adaptation of fertilizer recommendations. A systems approach, using modeling and simulations, is therefore a valuable tool. The concerned research is demand driven. Experiments are conducted with farmers' participation on their own fields, which serve as open classrooms and laboratories for testing and adapting technologies. IFDC supports national agricultural research institutes, extension services, and nongovernmental organizations in this approach.



Todji Gabriel, farmer from Benin, presents the results of his ISFM trials.

Photo by the late Dr. Bayebinam K. Kezie

Input Accessibility Program

The Input Accessibility Program aims to support the development of integrated soil fertility management strategies at the regional level in West Africa. The program explicitly focuses on the adoption process and combines the participatory development of technological packages with measures that facilitate institutional change and, in particular, improve the linkages between smallholders and input (including credit) and output markets. IFDC works with national agricultural research and extension services and nongovernmental organizations (NGOs) to implement regional-level projects, based on the effective participation of the key stakeholders, i.e., farmers, bankers, traders, and regional policy makers. Preference is given to regions with comparative advantages for intensive food and/or livestock production for the local, regional, or international markets. The program develops organizational and financial capacities within the farming communities to handle problems related to input supply and the production and marketing of agricultural produce, which are instrumental in the transition to more productive and sustainable agricultural production. IFDC recognizes the obvious need to enable women who are the pillars of rural economies to participate in development projects to solve their own problems and realize their expectations. The intervention strategy of IFDC includes measures to involve women farmers at all levels of project design and implementation and to facilitate their access to knowledge, technologies, production inputs, and markets.

Policy and Market Program

The Policy and Market Program aims to promote the creation of favorable policy and socioeconomic environments for the improvement of soil fertility in sub-Saharan Africa. It undertakes activities covering the policy and market development issues, which directly or indirectly influence incentives to invest in soil fertility improvement. The policy aspects cover general policy orientations of individual countries or sub-regional groupings that affect decisions to invest in soil fertility improvement. The market development aspects cover activities related to private sector input dealers, farmers, and their organizations. It thus facilitates dialogue among public sector decision makers, farmers and their organizations and private sector input dealers in an era when the state is no longer directly involved in the procurement of inputs, production, processing, and marketing of agricultural products. The program's partners include policymakers at the national and sub-regional levels, input dealer or trade associations at the national or sub-regional levels, and farmers' organizations at the national or sub-regional levels. It also collaborates with the network of market information systems in the West African sub-region to develop an internet-based agricultural market information system that serves policymakers, farmers, and the private sector input dealers. The web site is managed and used as the medium of exchange by the regional association of agricultural input dealers that the program is helping to organize. The Policy and Market Program has also provided training for leaders of several farmers' organizations to strengthen their organizational and lobbying capacity and to link them to input suppliers.

Human Capacity Building

The philosophy of human capacity building at IFDC is that knowledge and skill are absolutely essential requirements in the efforts of developing countries to meet the challenges of privatization, globalization, and market development. Training is essential to improve their capacity to compete in the world markets for goods and services and to promote meaningful employment in agriculture and agribusiness. Countries that have invested in education and skills development have been able to adapt and reap the benefits of the changing global economic order. Others, particularly in the developing world where access to and the level of education, skill, and training are inadequate, have serious difficulties participating in global agricultural commerce and reaping benefits for their citizens and economies. IFDC believes that education, skills development, and training, provided they are supported by a favorable national and international economic policy, can make a contribution for countries, enterprises, and individuals to benefit from globalization, overcome constraints, create more and better jobs, and improve incomes and living conditions. IFDC provides training in the use of modern techniques to address nutrient production,

Photo by M. Feisal Beig

marketing, and use without adversely affecting the environment. During the past quarter century, IFDC has provided opportunities to more than 8,400 professionals, including entrepreneurs, farmers, agronomists, agribusiness specialists, policy makers, government officials, and others engaged in agriculture in the developing countries and transitional market economies to enhance their skills and knowledge in a wide variety of agriculture-related disciplines.

Track Record

The Center has conducted technology transfer activities in more than 130 countries. IFDC has contributed to the development of human resources and institutional capacity building in 150 countries through more than 640 global training programs and 152 country-specific programs.

Significant Accomplishments

- IFDC has demonstrated success in establishing effective private-sector agricultural input and output marketing systems, trade associations, small and medium enterprises, and technology transfer in Albania, Bangladesh, and Kosovo. The Center is now transplanting those successes in Afghanistan, Azerbaijan, Ghana, Kyrgyzstan, Malawi, and Nigeria. These efforts are resulting in numerous homegrown entrepreneurial ideas that are taking root and spreading in the individual countries. By using a holistic approach IFDC is assisting the entrepreneurs in establishing market economies to trigger economic development in their respective countries.

- IFDC is introducing a modified form of urea fertilizer in Bangladesh, Nepal, and Vietnam that improves the standard of living of rice-growing farmers and reduces the environmental impact of fertilizer use. In this process, urea is turned into small briquettes—urea super-granules—that are applied well below the soil surface near the plants' roots. The use efficiency of the fertilizer is greatly improved because the nitrogen is trapped where it is needed. The technology has resulted in a 38% increase in rice farmers' yields. The reduction in nitrogen gases lost to the atmosphere, compared with 70% losses of conventional application methods, is an additional positive benefit. Since less fertilizer is required and more food is produced, this practice has made a substantial contribution to poverty alleviation.

- IFDC has developed a package of inputs and practices, called ISFM, which raises the agricultural productivity level while improving the natural resource base. The package includes the combined use of soil amendments, like organic materials, and mineral fertilizers to replenish the soil nutrients and improve the efficiency and cost-effectiveness of external inputs. The technology package produces yields that are 2-3 times higher than average yields. Return on (invested) capital exceeds 100%, with a value: cost ratio well above 2, and returns to family labor are 2-6 times higher than the average salary rate prevalent in sub-Saharan Africa. The ISFM project is now operating in Benin, Burkina Faso, Ghana, Mali, Niger, Nigeria, and Togo with more than 2,000 farmers in more than 100 villages participating. Emphasis is placed on participatory approaches to develop ISFM options suitable to agro-ecological and socioeconomic conditions of farmers considering their needs, interests, and capacities. Thus, farmers select, experiment, and adapt in their own fields the methods developed with research and extension staff. This freedom of choice and action allows for innovation.

Staff and Facilities

IFDC's international, multidisciplinary staff and physical facilities are uniquely suited for conducting a broad range of research and development activities in sustainable food systems. Its cadre of scientists and professionals provide a unique mix of applied research, technology transfer, and market development capabilities. The Center's facilities include libraries, laboratories, greenhouses, pilot plants and training facilities.

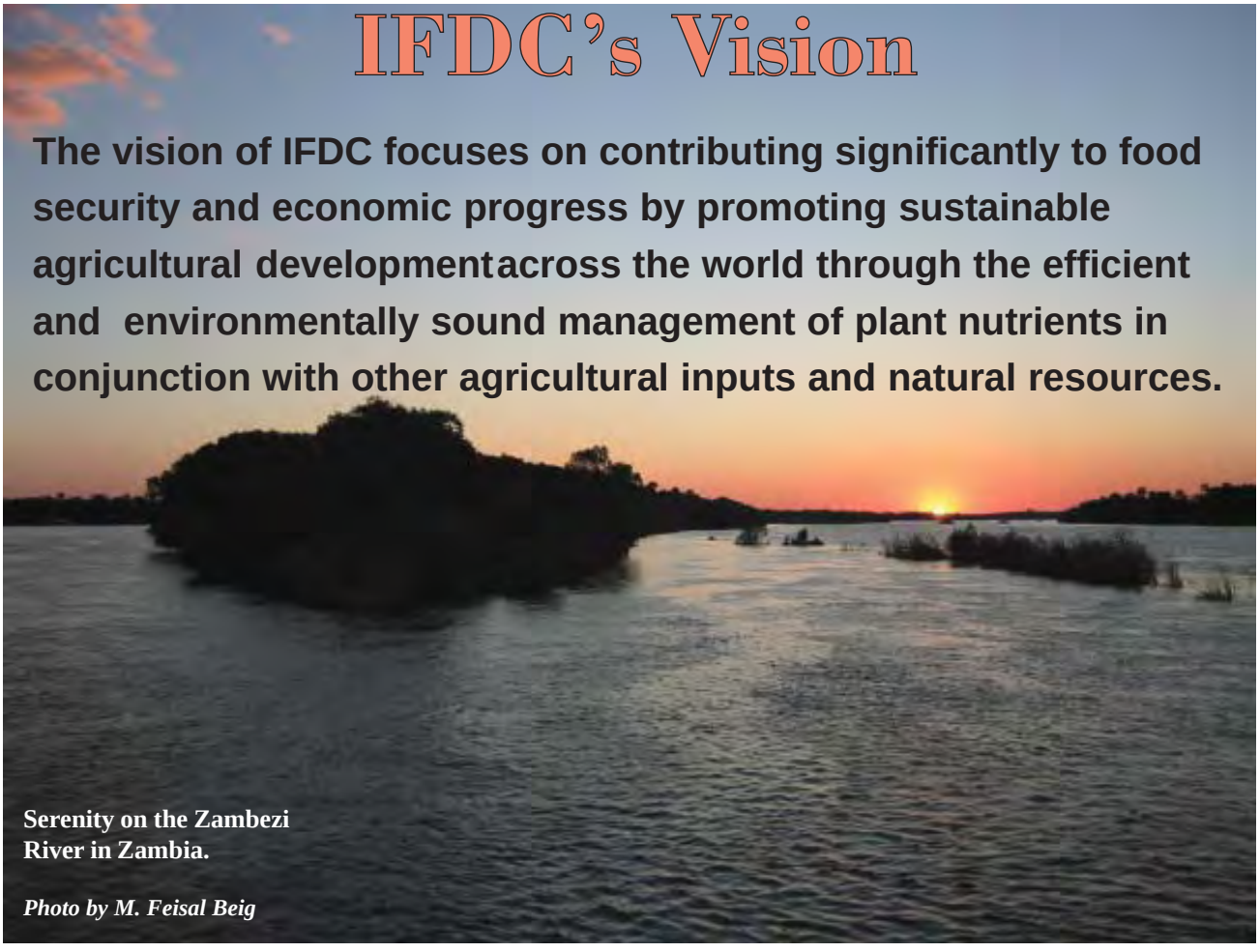
Photo by Charles E. Butler

Locations and Funding

Besides its Headquarters in Muscle Shoals, AL (U.S.A.), IFDC has offices and/or staff stationed in Afghanistan, Albania, Azerbaijan, Bangladesh, Belgium, Burkina Faso, Ghana, Kenya, Kosovo, Kyrgyzstan, Malawi, Mali, Nigeria, Togo, Uganda, and Uruguay, and Washington, D.C. The Center collaborates with IARCs, numerous national organizations, the private sector, and NGOs around the world. Partners and clients are diverse and include bilateral and multilateral development agencies, host-government institutions, and private enterprises. Much of the Center's revenue is generated from long-term, donor-funded, market development projects through which its staff members transfer policy and technology improvements in emerging economies.

Awards

- In November 1999, *Farm Chemicals International* recognized IFDC as one of the top 10 organizations that helped shape world agriculture during the 20th century. According to the journal's Special Millennium Issue, "IFDC was created in 1974, during a period when global fertilizer and energy shortages had combined with rising agricultural input prices to create a food supply crisis situation for many developing countries. IFDC has become a global center of excellence, with expertise in fertilizers to service the needs of developing countries."
- The journal also named one of IFDC's Board members—Dr. Norman Borlaug—among the top 10 influencers that shaped world agriculture during the past century. The journal named Borlaug "a key individual in the 'Green Revolution,' who combined agricultural research and practical humanitarianism through plant breeding that boosted yields in developing countries and won him the Nobel Peace Prize in 1970." Further the journal states that Borlaug is often called the "Father of the Green Revolution." He developed high-yielding wheat varieties that spurred food production to outpace the growth of human population. In 1997 the *Atlantic Monthly* magazine said of this Nobel Prize winner: "The form of agriculture that Borlaug preaches may have prevented a billion deaths."
- The late Travis P. Hignett, former special consultant to IFDC's Managing Director, was listed among the top 10 influencers that shaped world agriculture during the 20th century. Often referred to as the "Father of Fertilizer Technology," Hignett updated the *Fertilizer Manual*—a definitive work explaining primary fertilizer-manufacturing processes.



Serenity on the Zambezi River in Zambia.

Photo by M. Feisal Beig

How We

Work

How We Work

IFDC Mixes the Right Ingredients for "Bread for Peace"—

Reaping Results with a Holistic Approach to Sustainable Agricultural Development

Why should it matter to us whether children in the developing countries have enough food to eat…have a future…or learn what it means to live in peace? We want them to become productive citizens of the world and not engage in destructive behavior. We want to create vibrant, robust economies. That produces peace…that produces tranquility.

The engine that drives productive economies in developing and emerging market economy countries is agriculture. It is the catalyst that can break the vicious cycle of poverty and hunger that holds many developing countries in its grip. According to the World Bank, one third of the population in the developing countries lives below the poverty line, which translates to a staggering 1.2 billion. Of this 75% or one billion people live in rural areas. To help break this cycle of poverty and hunger, IFDC has developed and is implementing in several countries a strategy that is not piecemeal but all encompassing—a holistic, integrated, multidimensional approach to sustainable agricultural development. IFDC is applying its holistic approach in the developing countries and the emerging market economies to increase agricultural productivity and food security, reduce poverty, and protect the environment. "We are mixing the right ingredients for 'Bread for Peace,'" says Dr. Amit H. Roy, IFDC's President and Chief Executive Officer. This approach includes such components as training, credit access, modern agricultural demonstrations, price surveys, soil testing, and association development.

As one of the beneficiaries of this holistic approach, the Afghan woman pictured on this report's cover (preparing naan [bread] for her family) has hopes for a brighter future for her children because of the work by IFDC and its partners in Afghanistan. "We are helping to ensure that the dream of a better quality of life for the resilient people of Afghanistan becomes a reality," says Roy. "The bread on Afghan farmers' tables is evidence that we are making a difference for Afghanistan."

The sustainable agricultural development that IFDC is pursuing is development that allows us to meet the needs and aspirations of both present and future generations without undermining the capacity of nature and cultures for self-regeneration. It is the key to addressing a multitude of issues confronting the developing world—poverty, food insecurity, malnutrition, population explosion, and environmental degradation.

IFDC's holistic approach to sustainable agricultural development focuses on the following areas: market development, resource development, soil fertility management, and training. The Center's achievements in these areas during the past year are discussed.

Fueling Economic Growth Through Market Development

In recent years it is increasingly evident that greater efficiency, productivity, and economic vigor can be realized through market forces, competition, private initiative, and entrepreneurship. Since the mid-1980s, strategies for agricultural development based on principles and policies to strengthen market forces, increase competition, and create a less significant role of the state have been integrated into the theory and practice of market development.

Throughout the world, market protection by governments and state enterprises have been abandoned, thereby creating a void. Given that void, new and reformed private agribusiness entities are required to improve efficiency and develop a market orientation for commerce in general and agribusiness in particular.

Introducing an alternative strategy is one of the most salient and applauded features of IFDC's market reform and development work throughout the world. The IFDC strategy for market development is grounded in theory, research, lessons learned, and practical field experiences during the past quarter century in Southern and Central Asia, sub-Saharan Africa, and South Eastern Europe where the Center has conducted agricultural and market development projects.

The IFDC strategy for market development links agriculturalists, entrepreneurs, and institutions to promote mutual learning about market economics and generate, share, and use agricultural technology, knowledge, and information. The guiding principles of that strategy integrate an agribusiness development project with farmers, agricultural educators, researchers, government, NGOs, media and input dealers to harness knowledge and information for market development and thereby improve agricultural productivity, create opportunities for employment, improve standards of living, and promote integration into the world market. The strategy must be adapted to specific social, cultural, and economic conditions. Therefore, the strategy should be understood as a means to chart a course, aid in discovery, and guide practical work activity.

During the past year IFDC has employed this strategy in Afghanistan, Albania, Azerbaijan, Ghana, Kosovo, Kyrgyzstan, Malawi, and Nigeria. Highlights of these efforts are discussed.

Afghanistan

Afghanistan is one of IFDC's most recent venues for market development assistance. When IFDC arrived in Afghanistan in 2002, we were in for a rude awakening. It was indeed disastrous. Many crops, irrigation systems, and other supporting infrastructure had been destroyed in 23 years of war. Production was only a fraction of what it had been when the Soviet occupation occurred. But what we have seen in the past year has been a massive resurgence in agricultural productivity.

Photo by Marie K. Thompson

Harlon King of Harlon King Seed Store, Tuscumbia, AL (U.S.A.) welcomes the Afghanistan Minister of Agriculture and Livestock, His Excellency Sayed Hussain Anwari, and Ian Gregory, Director of IFDC's Market Development Division, for a tour of his agricultural inputs shop.

Our work in Afghanistan is important to the average citizen, says Craig Buck, U.S. Agency for International Development (USAID) Mission Director in Afghanistan. As we work to support economic stability and development, the country will be able to live in peace and harmony. We think that when people are working hard, when they have an income, when they are able to support their children and send them to school, they are not going to be inclined to support terrorist movements.

Historically, agriculture has been the cornerstone of Afghanistan's national economy. The sector is so vitally important to the livelihood of all the people that no economic advancement will occur until that sector is again flourishing. Over 80% of the Afghan population is dependent on agriculture, and the sector is responsible for over 60% of the gross domestic product. After decades of factional wars, the Soviet invasion, a repressive Taliban regime, and 4 years of drought, the agricultural sector was facing a severe crisis.

In March 2002 IFDC, with funding from USAID, began an emergency project to supply fertilizer for use with improved wheat seed. In one month, IFDC coordinated and began the distribution of 3,100 tons of urea to more than 62,000 needy Afghan farmers for the topdressing of spring-planted wheat.

IFDC avoided disrupting the local fertilizer market system by using credit vouchers provided to the farmers with which they "purchased" a bag of urea fertilizer from a local dealer. In this way, IFDC began the development of the agricultural input markets. The NGO partners of IFDC paid the dealers the value of the fertilizer on submission of the collected vouchers. With this support, Afghanistan produced 3.6 million tons of wheat in 2002; this production represents an 82% increase over the 2001 harvest. As a result of using the emergency fertilizer provided by USAID and distributed by IFDC, the 62,000 Afghan farmers nearly tripled their harvest in comparison with that of the previous year. One month after harvest, the farmers paid the shura (the local village council) for the fertilizer; the shuras in turn used the funds for local agricultural development projects, such as irrigation and feeder road repairs.

With the collaboration of the extension department of the Ministry of Agriculture and Livestock (MOAL), field demonstrations for potatoes and maize were established during summer 2002. IFDC invited local farmers to witness the demonstrations as a means of transferring modern agricultural technology. In July 2002, IFDC began conducting dealer-training workshops on the proper use of fertilizer. At the 32 provincial workshops dealers were presented with fertilizer booklets and fertilizer-use charts in Farsi and Pashtu, which are specific to their crops and region. IFDC, assisted by MOAL, conducted a retail price survey for farm produce and inputs and a fertilizer dealer survey in all 32 provinces.

Furthermore, IFDC encouraged policy reforms that support private sector agricultural input dealers and coordinated the donation of 330 publications for a new agricultural library in MOAL.

Highlights of 2002/03 achievements include the following:

- During 2002, the IFDC effort encouraged the private sector to import and supply 12,000 mt of fertilizer to 180,000 farmers. During 2003, the effort induced the private sector to import and supply 4,640 mt additional fertilizer. Those results were in response to voucher-induced demand.

- In conjunction with the improved seed from the International Center for Agricultural Research in the Dry Areas (ICARDA), International Maize and Wheat Improvement Center (CIMMYT), and Aga Khan Development Network (AKDN), the provision of emergency fertilizer combined with IFDC-organized field demonstrations and technical publications stimulated a 60% increase in fertilizer use in the provinces during 2002 where the project was active.

- The distribution of approximately 9,200 mt of improved wheat seed, 3,100 mt of diammonium phosphate, and 12,600 mt of urea during fall 2002 and spring 2003 is expected to produce 78,500 mt more grain than farmers' practices. The estimated market value of the seed and fertilizer is US $3.92 million. The estimated market value of additional grain produced is US $8.16 million (farmer selling price at $104 per mt). The estimated benefit : cost ratio is 2.08 : 1 or US $2.08 return for each US $1 invested in seed and fertilizer. The estimated average value of grain for the 184,530 households is US $44.22 per household.

- IFDC has introduced urea deep placement to farmers and fertilizer dealers. Urea deep placement can reduce the urea requirement for rice production by at least 35% as demonstrated by farmers in Bangladesh and Viet Nam.

- Because no functioning analytical laboratories exist in Afghanistan, soil test kits were used to estimate soil nutrient levels where field trials were conducted.

- IFDC and its collaborators have distributed 900 mt of fertilizer to 14,090 households for use on rice, mung bean, and grapes and the production of potato and maize seed.

With the good rainfall in 2003, the improved seeds, and fertilizer, the Afghan farmers have harvested higher yields and cultivated greater area this year. Because of the intervention of IFDC and others, Afghanistan is almost self-sufficient in wheat production during 2003.

Albania

Albania is one of IFDC's most successful market development efforts in the Center's history. The Albanian association model is based primarily on a twofold approach to agricultural development: (1) technical and commercial assistance to critical enterprises within industries having a competitive advantage and (2) development of trade associations based on these industries. Other critical elements are (1) facilitation of umbrella associations to strengthen advocacy and individual association sustainability and (2) the shift to the private sector of functions normally thought to be in the purview of government but for which it has insufficient funding. In the case of the latter, private sector technology transfer has been especially important. Because of this model's success, IFDC has replicated it in several other countries: Afghanistan, Azerbaijan, Ghana, Kosovo, Kyrgyzstan, Malawi, and Nigeria, according to country-specific conditions. The IFDC Albanian model is "the" agribusiness development approach of the future.

An Albanian greenhouse.

Photo, IFDC/Albania

The current project—Assistance to Albanian Agricultural Trade Associations (AAATA)—has been implemented since 1999. The purposes of the project are intertwined and reinforcing. One of the purposes is to build network systems that promote and support agribusiness development, specifically trade associations, sources of capital, policy reform, and technical advice. Another purpose is to assist individual agribusinesses to catalyze new ventures, expand markets, and modernize existing facilities via debt and equity financing while creating more demand for production from farmers.

Some recent accomplishments under the auspices of the project include the following:

- The Federation of Agricultural Trade Associations (KASH) participated in the preparation of six free trade agreements with neighboring countries.
- KASH prepared position papers and lobbied for seven fiscal laws; the federation also prepared position papers for agribusiness development issues in each KASH region.
- The Albanian Business and Management Center (ABMC) has generated over US $20,000 in technical service fees provided to members and logistic support for trade missions.
- Several high-tech Israeli greenhouses were constructed for clients in various locations.
- The American Bank of Albania approved nine loans totaling approximately US 1.2 million for project clients.
- The project facilitated over US $2.3 million in client self-investments and nearly US $2 million in trade credit to clients.
- Project specialists and experts conducted more than 200 site visits to businesses giving technical assistance during the first six months of 2002.
- The project helped establish the Albanian Spice and Herbal Trade Association (ASHTA); ASHTA has conducted training programs and developed educational materials for widespread distribution in Albania.

Many success stories have evolved from the Albania project. One example, "Agribusiness 2003," is highlighted here.

Agribusiness 2003—Great Event of Albanian Agribusiness

KASH, the advocacy body of 18 agribusiness associations, organized during June 7-12, 2003, its first international trade fair —"Agribusiness 2003." Domestic and foreign private companies, donor projects, and scientific research institutions represented the latest technologies in edible oil industry, milling industry, meat processing, fruit and vegetable processing, greenhouses, and dairy and farm equipment.

This trade fair was different from those previously organized. It was the first Albanian international trade fair focusing exclusively on agriculture and food and

Extra virgin olive oil—a new Albanian product.

Photo, IFDC/Albania

organized by agribusiness associations. The fair promoted successful domestic producers and identified powerful importers to Albanian markets. It strengthened the cooperation between business partners to face the challenges of a market economy.

Workshops, meetings, and press conferences that occurred during the trade fair increased the awareness of the Albanian agribusiness community. The main topics of discussion were developments in the fields of agriculture and food and agricultural policies. Officials from the Albanian government held discussions with representatives from the agribusiness private sector. On the other hand, donor projects had the opportunity of presenting their results and understanding better the type of assistance to be offered to agribusinesses.

Approximately 70 entities participated in Agribusiness 2003. More than 50 of the businesses are producing and trading private companies from Albania and abroad, plus 10 institutions, 5 donor projects, and 4 private agencies that offer their services to agribusiness firms. Of the foreign participating companies, 7 are located in Italy, 4 in Greece, and 2 in the Netherlands and Germany.

More than 20,000 people visited the trade fair. New producers such as FERLAT (the main dairy producer in Albania) and FIOL (Albania's main producer of edible oil) made their first public appearance in Agribusiness 2003. The income realized from the trade fair will be used to increase the financial sustainability of agribusiness associations and KASH.

Among other dignitaries, the President of Albania, Mr. Alfred Moisiu, and the U.S. Ambassador to Albania, Mr. James Jeffrey, participated in the inauguration ceremony of the trade fair. The Prime Minister Fatos Nano visited the fair and spoke to the participants concerning policy issues.

Azerbaijan

The apple orchard of Saday Zeylanov has already benefited from IFDC technology transfer in Azerbaijan. Zeylanov's apple tree orchard was selected for implementation of a crop protection product (CPP) demonstration. Although weather conditions were

not optimal, the yield from trees receiving the new CPP treatment was, on average, 6% higher compared with the trees receiving the less effective CPPs, and a significant difference could be seen in the larger apple size. Furthermore, because of the high quality of apples produced, the price received was 30% higher compared with apples harvested from neighboring orchards. His production was 40% higher than the previous year. Eighty-seven percent of the production (12 tons) was exported within 2 weeks to Russia.

The additional expenses of the inputs purchased amounted to only US $90/ha; however, the difference in his margins resulted in an increase of US $1,212/ha. Zeylanov explains that when he bought this orchard 2 years ago, his relatives said that he would lose money. Quite to the contrary, Zeylanov has been very satisfied with the results, and many of his colleagues and input dealers who participated in the IFDC-organized open field trials are beginning to apply the same production recommendations for 2003.

Zeylanov is only one of the farmers and entrepreneurs who are benefiting from the IFDC project in Azerbaijan. Launched in early 2002, the 3-year agribusiness project is targeted to help boost the country's agricultural production and to encourage agribusiness growth and generate employment. The project is forming groups of agricultural input dealers in four key regions to improve their ability to supply inputs and technology to farmers. IFDC is providing business, technical, and management training; market information; and improved access to credit and finance. The project is helping farmers in Azerbaijan to make the transition to a market economy. IFDC is helping to organize current and potential agricultural inputs suppliers to form trade associations and become catalysts for a much-needed transfer of improved technology to farmers.

Demonstration farms are being established in the four main agricultural regions of Azerbaijan. By showing the private dealers the value and methodology of demonstration farms, IFDC is also helping to establish private sector extension services. The specific targets of the Azerbaijan project include:

- ♦ Doubling the commercial trade in fertilizers, seeds, and animal feed.
- ♦ Supporting over 150 agricultural input dealer enterprises.
- ♦ Helping them establish an effective and sustainable trade association.
- ♦ Assisting clients in gaining access to more than US $750,000 in new credit and investment.

Highlights of IFDC's results in Azerbaijan thus far include the following:

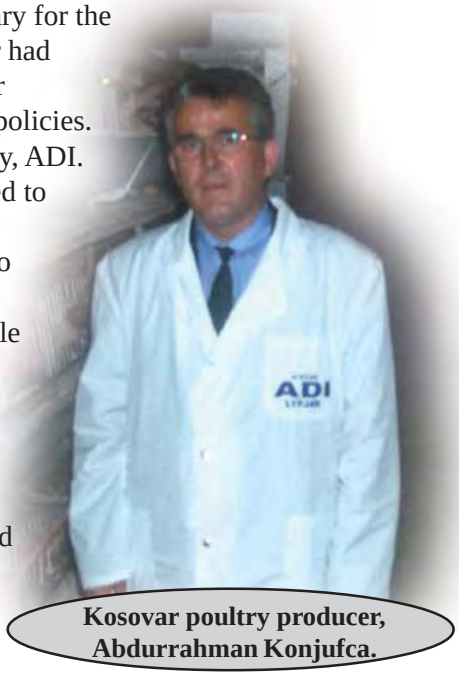
- ♦ Sixty-four inputs dealers have agreed to establish a national agricultural inputs dealers' association.
- ♦ The project produced several new leaflets on various agro-technical topics and information; 8,500 copies were printed and distributed.
- ♦ Newspaper articles were published on fertilizer application, and local television stations broadcast programs showing the benefits of improved technology and inputs in apple orchard development.
- ♦ Several seminars were conducted on various topics with hundreds of dealers and farmers in attendance.

- An open field day on the application of CPPs attracted 35 participants and a local television station. The station televised a program on how to increase productivity and reach export quality.
- An on-farm demonstration introducing triple superphosphate (TSP) fertilizer was organized; 20 dealers and 220 farmers were present.
- TSP was introduced as a new fertilizer product in the Azerbaijan market. Demonstration plots and training programs explained the benefits of this product, which has resulted in sales exceeding 50 tons.

Kosovo

The success story of the ADI Poultry Farm under the leadership of Abdurrahman Konjufca illustrates the impact of IFDC's work in Kosovo. With IFDC's help this entrepreneur was able to invest nearly US $1 million in his business after the war. Konjufca is a prime example of a new generation of entrepreneurs in Kosovo. These businessmen are willing to take calculated financial risks, which are necessary for the development of a healthy free market economy. The Kosovar poultry farmer had worked for 7 years for a state-owned Kosovo egg producer but, like all other Kosovar Albanians on staff, he was dismissed because of new Government policies. He was able to establish the now prosperous private egg production company, ADI. Konjufca is modernizing and expanding his business with the credit extended to him by the American Bank of Kosovo and others. This credit helped him to increase his production capacity from zero (immediately after the conflict) to 53,000 layers and 77,000 pullets. He was able to upgrade the company's technology this year with machinery from Slovenia. Furthermore, he was able to invest in repairs to his caging system. This Kosovar poultry farmer is just one of many farmers and entrepreneurs who were assisted by the IFDC agribusiness project in their country.

Photo, IFDC/Kosovo



Kosovar poultry producer, Abdurrahman Konjufca.

Within the span of only 2-1/2 years, the IFDC Kosovo project chalked up numerous achievements. From the very beginning the project was confronted with a myriad of constraints that included the absence of:

- A market system for agricultural inputs, partly because of the loss of previous suppliers.
- Technology-transfer mechanisms to farmers to increase crop yields.
- Favorable policies and regulatory framework to stimulate agribusiness.
- Access to credit for agricultural inputs dealers and agribusiness in general.
- Trade associations and other mechanisms to introduce, promote, and sustain change.

The IFDC/Kosovo project was successful in addressing those constraints in a well-focused and realistic manner, served as a beacon of private sector-led development in the rural sector, and helped establish effective backward and forward linkages using trade associations as the catalyst.

Highlights of the Kosovo project's achievements include:

- Strengthening of three young trade associations; establishment of an Alliance of Kosovar Agribusiness (AKA), composed of agricultural trade associations, as the main voice of private agribusiness; and the provision of tools for effective advocacy and influence by AKA.

- ♦ Development of policy advice on issues affecting agriculture, including taxation, trade, regulation of inputs, commercialization of land and assets, and food safety and quality control.
- ♦ Implementation of an extension and field demonstration program that helped Kosovo significantly increase yields of its primary crops (wheat by 29% and maize by 25%, for example) and the introduction of new crops, e.g., soybeans.
- ♦ Introduction of modern technologies through farmer field demonstrations and other means that produced a yield increase of 69% and net added income of US $200/ha for wheat, and a 150% yield increase and US $726/ha income for maize.
- ♦ Assistance provided to 7,000 farm family participants in the extension program to increase their average income by more than US $350.
- ♦ Increased availability and use of agricultural inputs.
- ♦ Doubling of egg production to 160 million, thus reducing Kosovo's dependence on imported eggs by nearly 50%.
- ♦ Generation of US $16 million in credit for agribusiness enterprises and US $15 million in agribusiness investment.
- ♦ Increased agricultural input sales of 64% from the 2000 base year to US $18 million in 2002, flour production by 75% to US $11.7 million, and eggs and milled feed by 50% to US $16.8 million.
- ♦ Doubled employment of agricultural enterprises to 2,000 people.
- ♦ Expansion of regional and international trade and other networks for clients.

Kyrgyzstan

Kyrgyz entrepreneur Hamidullo Dehkanbaev is harvesting the fruits of his entrepreneurial spirit. A member of the IFDC-supported Association of Agribusinessmen of Kyrgyzstan (AAK), Dehkanbaev purchased a motorized backpack sprayer for CPPs through the trade association. The technology was introduced at a safety demonstration for CPPs, which are included in the new technologies that IFDC is introducing to local farmers. The Kyrgyz businessman started using the machine to apply CPPs on his rice fields. Rice, a staple food in the area, is very difficult to treat with CPPs because rice paddies are submerged in water during the growth process. However, his investment proved to be a success. After seeing the success on his fields, his neighbors quickly registered to be his clients. He quickly discovered that he would be able to completely pay for the apparatus within 2 months.

Photos, IFDC/Kyrgyzstan

This impressed other entrepreneurs, who are following his example and are thereby investing in Kyrgyzstan's agricultural future.

This is just one example of how IFDC's project in Kyrgyzstan is making an impact on the country. The main goal of the project is to increase agricultural productivity through encouraging and supporting agricultural private sector enterprises.

USAID selected IFDC to implement changes like these in the Ferghana Valley. The project is breathing new life into the country's agricultural sector through the introduction of appropriate technologies, investing in marketing efforts and input supplies, and providing strong support for the young trade association. IFDC assists association members in obtaining credit, marketing their products, managing their businesses, and expanding their enterprises.

Success stories like that of Dehkanbaev's and the creation of the AAK, with an ever-increasing membership, provide a sound basis for further development initiatives. The challenge during the second phase of the project will be to increase even further local support for the AAK and to help change the delivery system for agricultural input products. This would result in improved productivity and profitability for Kyrgyzstan's agriculture. For farmers, agricultural businessmen like Dehkanbaev, and the general public, the results will be reduction in rural poverty and an increase in the region's social stability. IFDC is striving to help Kyrgyzstan realize these goals.

This project is extremely important to Kyrgyzstan since the agricultural sector is the mainstay for the Kyrgyz people, and according to the World Bank, more than 40% of the country's adult population are engaged in it. The agricultural market is fully liberalized: price controls on crops have been lifted and export taxes on agricultural products eliminated. Total agricultural land is 10.6 million ha, which includes 9 million upland pastureland and 1.2 million arable land. Several achievements have been realized by the IFDC project, as follows:

- The Kyrgyz Agro-Input Enterprise Development (KAED) project is following the Albanian model of identifying entrepreneurs handling fertilizer, seed, and CPPs and organizing them into a trade association.
- In addition to association development, KAED provides members with business development training, credit facilitation, and agronomy support services using three field demonstration sites to highlight the benefits of balanced NPK fertilizer application, safe use of CPPs, and the performance results of improved seeds.
- The association AAK held its first General Assembly in August 2002 with 127 participants and several exhibitors. AAK's Board of Directors and committees are actively developing their leadership skills.
- The Asian Development Bank has a similar component for Chui Oblast in northern Kyrgyzstan, and IFDC is negotiating to provide management and organizational support to their program to replicate and build upon our successful pilot effort in the south. A significant constraint in the south is that 95%+ of all fertilizer and CPPs is contraband from Uzbekistan, smuggled into the country for about 50% of the world market prices, thus undercutting the development of legal business.
- KAED organized a tender for and facilitated the importation of 60 tons of complex fertilizer, which is being marketed through 25 members of AAK. This is the first complex fertilizer used in Kyrgyzstan since Soviet times.

- KAED also organized a tender on behalf of GTZ for 100 tons of fertilizer purchased legally through AAK, which was used for monetization purposes to support a cotton growers' association.

- The IFDC project has established formal linkages between two international distributors of crop protection products and three international distributors of vegetable seeds.

Malawi

According to the World Bank, Malawi is one of the poorest countries in the world. In 2000 per capita income was estimated at US $190. Malawi's economy is largely dominated by the agricultural sector in terms of output, foreign exchange earnings, and employment. The sector accounts for roughly 35% of gross domestic product (GDP) and more than 90% of the country's foreign exchange earnings. The main staple crop is maize and the main cash crop is tobacco.

Malawi continues to suffer from considerable food insecurity, both in the aggregate and at the household level. On average, the people of Malawi consume only 83% of the minimum caloric daily requirements.

Malawi has high agronomic potential, but droughts and floods, HIV/AIDS, and poor planning have led to its current food crisis. An estimated one of every six adult Malawians is infected with HIV, and hunger has accelerated the onset of debilitating diseases and even death among many household breadwinners in Malawi. Malawi's market system is also to blame: there was simply no food to be found in the nation's markets despite the possibility for considerable production increases. However, action by policymakers and farmers over the next few years can avert a recurrence of massive hunger.

IFDC is now working to replace Malawi's harvests of hunger with a sustainable solution. The IFDC project—Malawi Agricultural Input Markets Development Project—which is funded by USAID, is working to strengthen open and competitive markets and dealer networks as primary mechanisms to improve farmer access to appropriate technologies. It is directly enhancing enterprise development and improved policies and regulations—both key to improving the efficiency in agri-input supply and facilitating smallholder access to appropriate production technologies. Through this working effort, the productivity and profitability of the agricultural system in Malawi will improve, thus enhancing household and national food security, reducing rural poverty, and increasing social stability.

The project's goal is to improve smallholder farmer access to improved quality seeds, fertilizer, and CPPs through financially sustainable agricultural input supply and marketing systems. The general objective of the project is to significantly increase the supply and use of improved quality seed, fertilizers, and CPPs. The project's specific objectives include the following:

- Improve the policy environment for input suppliers.
- Enhance entrepreneurship skills of agricultural input dealers and develop a cadre of dealers who could become technology transfer agents.
- Facilitate improved access to finance by agricultural input suppliers.
- Establish a market information system.
- Establish effective regulatory systems.
- Improve dealer and farmer knowledge of appropriate input practices.

The project was designed to focus on four core areas: developing human capital and dealer networks, deepening of policy studies and reforms, establishment and implementation of regulatory systems, and the development of market information systems.

The IFDC project has made an aggressive effort to continue the development of a sound and well-functioning infrastructure, administration and management system. Monitoring, evaluation, and performance measurement that allows for the efficient and effective attainment of the project goals and objectives have also been addressed in documentation and practice.

Since the initiation of the project in 2002, several accomplishments have been logged.

- More than 200 existing and potential input dealers have been identified and trained.
- About 400 sites across the country have been identified for inputs marketing.
- A potential gap for fertilizer imports has been established and communicated to the association and other stakeholders.
- Radio programs to improve knowledge on fertilizers by traders, farmers, and extension staff have been initiated.
- A draft proposal to commercialize the Agricultural Development and Marketing Corporation (ADMARC) has been submitted to the Government of Malawi.
- An association of agricultural inputs dealership has been formed and registered.
- The association has been linked to three commercial banks in the country.
- Business plans have been produced and submitted to the commercial banks for possible loans.
- A Seed Act and Crop Protection Act is being reviewed by IFDC for consistency and relevance.
- A workshop on policy issues and studies was conducted with the Malawi Agricultural Sector Investment Process (MASIP).

According to the Famine Early Warning Systems Network (FEWS NET), crop production in Malawi is generally expected to be better this year than last. Maize production is expected to increase by 31% from 1.6 million tons last year to 2 million tons this year. Malawi's national maize consumption requirement is about 1.9 million

tons. At the beginning of the year, the MOAI released the first crop production estimates and attributed the expected improvement to favorable weather conditions and increased uptake of agricultural inputs. Although Malawi appears to be successfully dealing with the food crisis, the food security problem is not yet solved.

Nigeria

Lawal Mumuda, a Nigerian agricultural dealer, operates as a general trader in the Kaura market in Kano State. In peak selling months he used to sell small quantities of fertilizers as a side business. In the year 2002, IFDC/Nigeria staff invited him to participate in an agricultural dealers' training workshop, organized by the IFDC project.

The enhancement of product knowledge and skills of business management and assistance in securing financial assistance from the Nigeria Agricultural Cooperative and Rural Development Bank and the formation of agricultural dealers' associations prompted Mumuda to diversify and expand his agribusiness activities. As a result of these innovations, he increased his sales by 30% in 2002/03. Encouraged by improved sales and upon the advice of the IFDC staff, he opened an additional retail outlet in a nearby weekly market. Each Friday, he carries small quantities of fertilizers, plant protection chemicals, and seeds to the rural market. Along with the inputs that are displayed in a small shed, to attract customers he exhibits promotional literature that he received during the training workshops. In the weekly market, more than 50 farmers (primarily women) buy small packets of agricultural inputs from him, and he also provides farmers information on the proper use of the agricultural inputs. Mamuda is pleased with the assistance that he has received from IFDC staff; he has not only increased his profit but is also providing farmers with much-needed agricultural inputs in a remote weekly market. He is reassured when his customer farmers tell him about the increase in crop yields that they receive by using modern agricultural inputs. Mamuda's story is only one example of a success story that the Nigeria project is producing. Much more remains to be done before the country's agricultural sector is on the right footing.

Photo, IFDC/Nigeria

Although Nigeria's agriculture has suffered from years of mismanagement, inconsistent and poorly conceived government policies, and the lack of basic infrastructure, the sector accounts for more than 41% of the GDP and two-thirds of employment. Since 2001 IFDC has been working to provide solutions for Nigeria's agricultural problems through the project—Developing Agricultural Input Markets in Nigeria (DAIMINA). The project has as its goal to improve farmers' access to agricultural inputs through the active participation of private sector enterprises, which will lead to enhanced crop production and economic growth.

Key activities of this project include policy reforms; fertilizer and seed regulations; private sector capacity building in business management; and management information systems.

Recent project results include:

- The Government now better appreciates the role of the private sector in agricultural marketing.
- The Government has indicated a desire to withdraw from direct intervention in the fertilizer market.
- The Government has accepted the draft fertilizer regulations prepared by IFDC.
- Commercial banks have started providing business credit to IFDC-trained agricultural input dealers.
- Many of the trained agricultural inputs dealers have recorded 15%-20% increases in their sales. The Government is providing support to the development of agricultural inputs markets.
- IFDC is working in three states of Nigeria.
- IFDC has helped establish inputs dealers' associations.
- IFDC is helping to train dealers and articulating new policies for Nigeria's fertilizer sector.
- IFDC is collaborating with the special program for food security of the Government of Nigeria and FAO.

Paving the Way to Sustainable Agriculture Through Resource Development

IFDC's programs in Resource Development concentrate on the responsible and broad-based management of the natural resource base needed to sustain agricultural productivity and avert degradation of potential productivity. IFDC strives to promote management that encourages sustainable development of natural resources, seeking a balance between economic productivity and preservation of those resources for future generations. The keys to truly sustainable resource development include an integrated approach to planning and implementation, inclusion of affected stakeholders from the planning stage forward, and understanding such development within the context of an ecosystem.

Increasing Rice Yields Through Adapting Environment-Friendly, Low-Cost Technology in Bangladesh, Nepal, and Vietnam

Photo, IFDC/Bangladesh

Vietnamese rice farmer, Mrs. Le Thi Canh, has adopted a new IFDC-developed farming technology that has essentially transformed her life and that of her family. Mrs. Canh, who lives with her family of 6 in the Thanh Hoa province, began using urea deep placement (UDP) technology for her spring 2001 rice crop. She could not believe her eyes when her first UDP crop yielded 350 kg (280 kg more than usual) per sao (Vietnamese traditional unit of land area). Before adopting UDP technology, her traditional broadcasting method had resulted in only 70 kg per sao. Furthermore, her investment cost was decreased by $1 per sao, thus increasing her income. In addition, UDP saves time because it requires only a one-time deep placement; therefore, Mrs. Canh has more time to raise horticultural crops to increase her income. By applying UDP, her family has increased its income by $103 per year. Mrs. Canh is very enthusiastic about the results of UDP. "My family cultivates rice on 4 sao, grows a small garden, and cares for a cow," she says. "In spite of our efforts in previous years, we still faced many difficulties. By using the UDP technique, we now have enough food to eat and some to spare. In the past 3 years, our income has increased; we have paid our children's school fees and bought a bicycle and color television. I now have time to participate in the activities of the village women's union." Mrs. Canh speaks as fluently about the UDP technology as an agricultural extension worker.

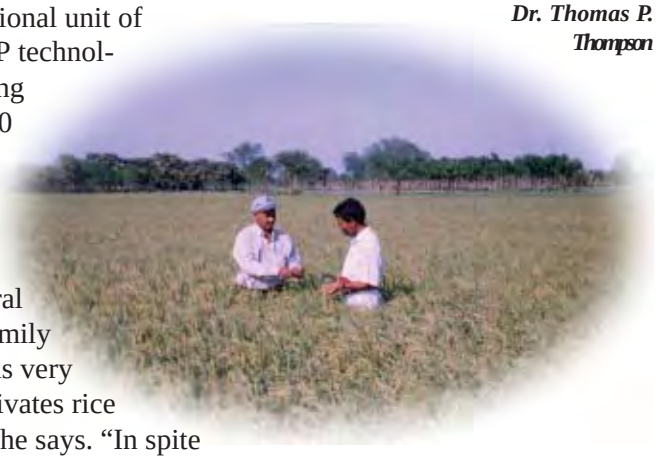


Photo by Dr. Thomas P. Thompson

Mrs. Canh is one of the beneficiaries of IFDC's Adapting Nutrient Management Technologies (ANMAT) project, which began in 1999. The goal of the project was to increase paddy yields of the resource-poor farmers through adapting low-cost, environment-friendly technologies with less chemical use.

With funds from the International Fund for Agricultural Development (IFAD), IFDC provided technical assistance for NGOs to guide farmers in Bangladesh, Nepal, and

Vietnam in participatory evaluation and adaptation of the UDP technology to satisfy their conditions.

The components of the project included: (1) input use technology evaluation and adaptation, (2) development of the input delivery system, and (3) technology dissemination activities. UDP was chosen as the principal nutrient management practice to reduce the nitrogen losses. Typically only about 30% nitrogen recovery by crops is obtained from the broadcast application of urea, but research has proven that placement into submerged soils eliminates much of the gaseous and runoff losses. The practice is labor intensive and appears to be suitable for small and marginal landholders.

Accomplishments

- An impact study conducted in Bangladesh during 2002 showed that UDP users realized 38% more paddy yields than that of nonusers of UDP. The UDP users applied 8.2% less urea compared with that of nonusers. These factors have made a substantial and significant contribution to poverty alleviation.
- On average, from a hectare of land UDP provided an additional 3.2 persons the annual calories required to be above the poverty level (223.5 kg/person/day @ 3.465 kilocalories/kg of rice, assuming 100% of kilocalories coming from rice) established by the Government of Bangladesh, thus ensuring food security at the household level.
- In Bangladesh, farmers have started deep placement of urea briquettes in banana, papaya, and vegetable crops.
- In Vietnam, farmers have begun adopting UDP technology.
- In Nepal, farmers spoke favorably about the UDP technology, emphasizing that it provided uniform growth and green color throughout the growing season and produced more tillers per hill and less weed growth.
- Deep placement of USG is a labor-intensive practice; thus, the project identified through field trials that urea megagranule (UMG) placement—single granule deep placement in one placement point—saves about 30% in labor costs. Accordingly, in project pilot areas and other areas of Bangladesh, farmers started using UMG rather than USG.
- A private organization, with assistance fro sale of briquette machines, which resulted UMG machines in Bangladesh.

Note: USG = 1 g or less of urea only.
UMG = 1-3.5 g of urea with or without P or K.

Dr. Amit H. Roy, President and CEO of IFDC, observes the high-quality briquettes produced on a test run by a UMG machine. Mr. Azim Uddin, Managing Director of SIMB (Bangladesh) Ltd. explains the operation of the machine.

Photo, IFDC/Bangladesh

- During July 2001 through June 2002, an additional 105 producers of USG/UMG began production in Bangladesh.
- There are now 1,019 briquette machines in operation in Bangladesh.

Baseline socioeconomic and impact evaluation surveys were conducted in Bangladesh, Nepal, and Vietnam. An external review of the project stated that the survey was "innovative and departed from traditional baseline surveys by asking questions about the concept of the rice farmers' standard of living. This was captured in the questionnaire by asking the farmers to express their life wishes."

Managing Soil, Water and Nutrients for Maize-Based Cropping Systems in Eastern Africa

Photo by Dr. Dennis K. Friesen

In collaboration with CIMMYT, IFDC is conducting strategic crop and soil management research in eastern and central Africa. This research is focused on on-farm evaluation and dissemination of stress-tolerant maize varieties from CIMMYT's regional germ plasm improvement projects. Additionally, the research involves the development, evaluation, and dissemination of agronomic practices that enhance the productivity of this germ plasm including integrated management of inorganic and organic nutrients in maize-based cropping systems and soil moisture conservation technologies for maize cropping systems in dry areas. IFDC's soil fertility specialist/maize systems agronomist based with CIMMYT's team in Nairobi, Kenya, conducts research in close collaboration with CIMMYT scientists and agronomists and scientists of national agricultural research systems (NARS) in countries forming part of the East and Central Africa Maize and Wheat (ECAMAW) Research Network. This research is partially funded by the Federal Ministry for Economic Cooperation and Development (BMZ).

Elite varieties of CIMMYT's low nitrogen and drought-tolerant maize germplasm have been tested by over 700 farmers on their own farms under their own management in small 4-

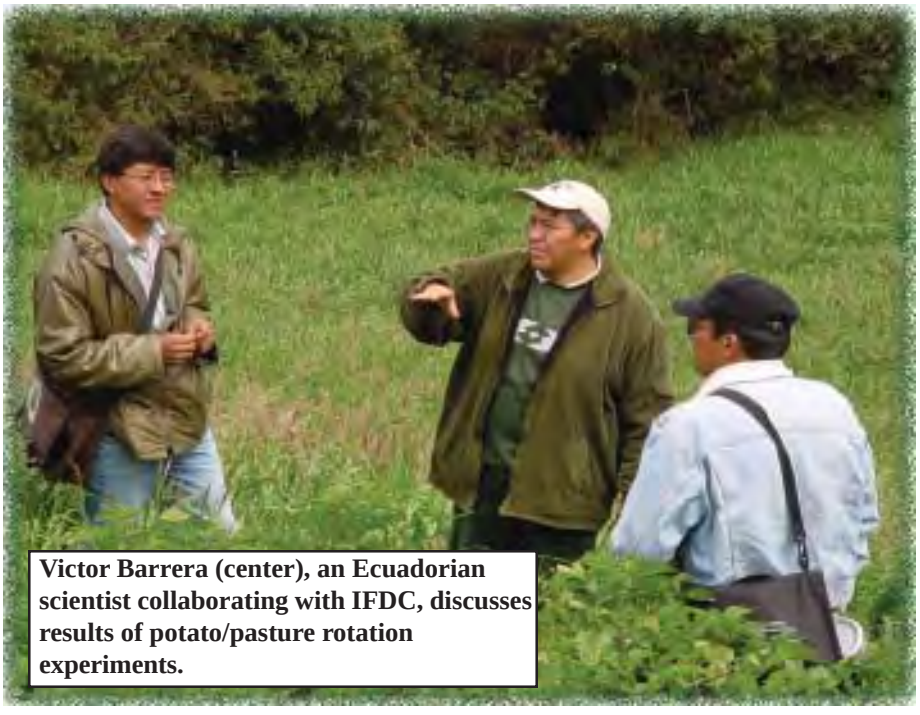
6 plot so-called “Baby” trials. Farmers also had the opportunity to see the potential of these varieties when planted in their community by NARS researchers with optimal fertilizer management in “Mother” trials. The “Mother-Baby” trials serve the three-fold purpose of evaluating advanced new varieties under diverse conditions, exposing farmers to new varieties, and incorporating their criteria and evaluation in the selection process. Based on this exposure and farmer feedback, several new varieties have entered the national certification process in Kenya for release.

To help farmers gain the most from these drought and infertile soil-tolerant varieties, IFDC and CIMMYT work with NARS scientists to test and disseminate cultural practices that improve soil fertility and conserve soil moisture. During the past 5 years, trials by network scientists in Ethiopia, Uganda, Tanzania, and Kenya have tested grain legumes, green manure/ cover crops, animal manures, and composts in combination with inorganic fertilizers in over 250 on-farm and on-station trials. Locally adapted green manure species have been identified and tested in different systems with maize (intercropping, relays and rotations) and in comparison with fertilizer nitrogen sources. Depending on the degree of growth suppression and the duration of follow-on growth possible after the maize harvest, intercropped or relayed green manures had either little or substantial effects on maize yields in the following season. The effects of green manures rotated with maize had more consistent and substantive effects on subsequent maize yields with increases as much as 385%, or 2.5-3.0 t/ha, on farmers’ fields. Based on this research, ECAMAW scientists began promoting “Best Bet” systems on farmers’ fields in 2002 using low-N tolerant maize varieties to take greater advantage of the N derived from legume components in the system.

Building Capacity in Systems Research in Ecuador

The National Agricultural Research System in Ecuador (INIAP) and IFDC are partners in a strategic alliance designed to improve agricultural research in Ecuadorian institutions. Like other agricultural research systems, INIAP is facing the challenge of producing more food with less impact on the environment, but being asked to do so with declining resources. To be successful in meeting this challenge, INIAP recognizes that it needs to place greater emphasis on the efficient organization of research and the knowledge that it generates.

Photo by Dr. Walter T. Bowen



Victor Barrera (center), an Ecuadorian scientist collaborating with IFDC, discusses results of potato/pasture rotation experiments.

The IFDC/INIAP alliance aims to train a multidisciplinary team of Ecuadorian scientists in the use of a systems research approach and systems analysis tools such as Geographic Information Systems (GIS) and simulation models. The team

is composed of 12 scientists from INIAP, the Ecuadorian Institute for Meteorology and Hydrology (INAMHI), and the Natural Resources Program (DINAREN) of the Ecuadorian Ministry of Agriculture. Disciplines represented on the team include soil science, agronomy, plant breeding, plant pathology, entomology, and economics. Activities are being partially funded through Ecuador's Agricultural Services Modernization Program (PROMSA), which is financed by the World Bank. The Project Leader is Victor Barrera, Head of Technology Transfer at the INIAP Santa Catalina Experiment Station in Quito. IFDC's Leader of the Soil and Nutrient Dynamics Program is coordinating IFDC's input to this activity.

The team is learning not only how to develop and apply simulation models and GIS, but also how to work together more effectively. While focusing on the quantitative description of soil and plant processes, they are also learning the importance of good communication and inter-personal skills, which are critical for successful teamwork. IFDC hopes to apply this approach to building research teams in other Andean countries through a continuing partnership with the International Potato Center (CIP) and the Consortium for the Sustainable Development of the Andean Ecoregion (CONDESAN).

Development of an Information and Decision Support System for the Agricultural Sector (in Uruguay and Argentina)

During the past two decades, Latin America has experienced a decrease in agricultural growth and an increase in rural poverty. In fact, the United Nation's Economic Commission for Latin America and the Caribbean estimated that in the mid-1990s 53% of the rural households in the region had incomes that were less than the cost of a basic basket of food. One of the clearest pathways to revert this regressing process is to ensure increased productivity of the existing agricultural systems in ways that will ensure enhanced availability of food and fiber, while preserving a healthy environment.

IFDC is responding to these challenges in southern South America by developing and establishing Information and Decision Support Systems (IDSSs). These IDSSs combine the use of modern information tools (remote sensing, simulation models, geographic information systems, probabilistic seasonal climate forecasts) with existing databases to generate products that can be easily understood and readily used to assist the planning and decision-making of stakeholders acting in the public and private agricultural sectors of the region. For example, the IDSS that IFDC is developing with the National Agricultural Research Institute (INIA) of Uruguay is being used to assist governmental planning agencies to identify the best land uses for different areas, issue drought/flood alerts, identify regions with highest needs for receiving aid in extreme events such as droughts, develop crop production forecasts, and assess production risks for establishing agricultural insurance programs. IFDC is also helping farmer cooperatives and NGOs to reduce the vulnerability of their production systems to the huge climate variability typically existing in the region. This is accomplished by identifying farm management practices that are best adapted to the most likely climate conditions expected for the following season, considering probabilistic climate outlooks (based, for example, on El Niño conditions and forecasts). An important feature of the work that IFDC is establishing using the IDSS approach is that it allows for the use of the

vast amount of information that is typically available in many developing countries, generated by the national institutes. The work is also contributing to building the human capacity in the region since national scientists are being trained in the development and improvement of IDSSs. Moreover, the methods and tools that IFDC is developing in the South American work are being used to begin establishing similar IDSSs in other developing countries.

Breaking the Cycle of Poverty and Hunger Through Soil Fertility Management

"He who does not cultivate his field will die of hunger."—African proverb

During the past few decades the problems of weak food security and pockets of malnutrition have endured in sub-Saharan Africa. Nevertheless, agriculture remains the cornerstone of the economy throughout the region; most of the population depends directly on the land for their livelihoods. The combination of low soil productivity and lack of nutrient inputs results in severe soil mining. This is an important constraint to food production in most of sub-Saharan Africa, and the reversal of nutrient mining is viewed as an economic and political challenge.

The challenge of unleashing the soil fertility of sub-Saharan Africa is very urgent. If the present yield trends are not improved significantly, the World Bank estimates that Africa will have a food shortage of at least 250 million tons of grain by 2020. To feed the projected increase in the region's population, sub-Saharan Africa will have to achieve a sustained 4% growth in agricultural output. This target can be achieved if the production of high-value crops is initiated and yields per hectare are increased.

Integrated Soil Fertility Management Increases Farmers' Agricultural Productivity

To help alleviate the soil infertility problem in sub-Saharan Africa, IFDC has developed an innovative approach called ISFM that involves farmers, researchers, and extension workers and also bankers and traders, including input dealers and fertilizer enterprises. The holistic approach, based on the agribusiness system at the regional level, combines participatory methods to develop and extend ISFM technologies and support institutional changes that enable their adoption and facilitate effective linkages between farmers and the "market."

The primary donors of this work are USAID, the International Fertilizer Industry Association (IFA), and IFAD. Another project sponsored by IFAD enhances the ISFM work.

"ISFM-based intensification technologies are based on the combined use of soil amendments and chemical fertilizers," says Dr. Arno Maatman, Leader, IFDC's Input Accessibility Program. "Different amendments exist, and their requirement depends on soil characteristics. Organic resources are used for improved soil organic matter status.

A woman farmer plans her future.

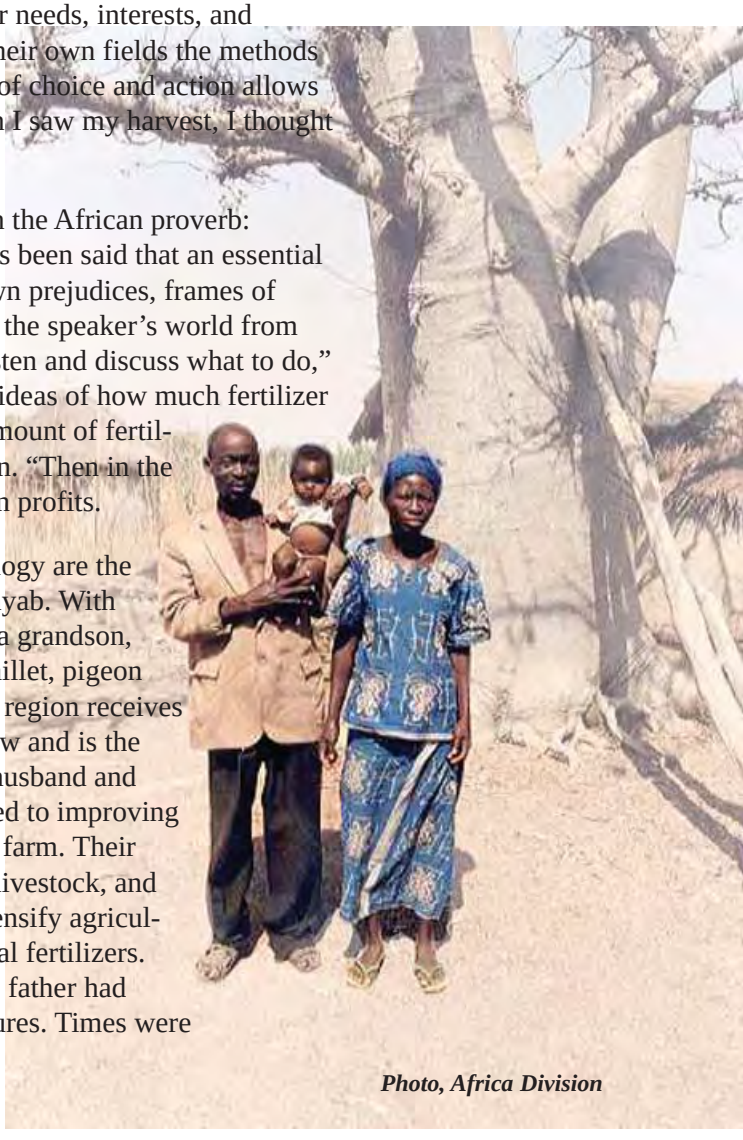
Photo, Africa Division

Limestone can be used to improve the pH level; soluble sources of phosphorus and phosphate rock are frequently used to increase the availability of phosphorus. The more difficult challenge is to improve the status of soil organic matter. More and better organic matter is needed. ISFM technologies that integrate the use of inorganic fertilizers with crop residue recycling, green manure, fodder crops, mixed cropping, crop rotation, and agro-forestry can improve the availability and quality of organic matter. The technologies lead to improved fertilizer use efficiency."

This novel approach increases the accessibility of fertilizer for farmers, raises the agricultural productivity level, and maintains the natural resource base. Its potential has been demonstrated from the West African "Gold Coast" to the Sahel, for crops like maize, sorghum, millet, and rice. ISFM technologies produce yields that are 2-3 times higher than average yields. Return on (invested) capital exceeds 100%, with a value: cost ratio well above 2, and returns to family labor are 2-6 times higher than the average salary rate prevalent in sub-Saharan Africa. The ISFM project is now operating in seven countries: Benin, Burkina Faso, Ghana, Mali, Niger, Nigeria, and Togo with more than 2,000 farmers in more than 100 villages participating. IFDC now provides support to these seven West African countries and over 20 governmental and nongovernmental organizations to develop and promote more intensive and yet sustainable agricultural technologies from the grassroots to the regional level. Emphasis is placed on a participatory approach whereby we listen to the farmer and learn of the constraints of his situation to develop ISFM technologies that are suitable to agroecological and socioeconomic conditions of farmers and that consider their needs, interests, and capacities. Thus, farmers select, experiment, and adapt in their own fields the methods developed with research and extension staff. This freedom of choice and action allows for innovation. Farmers are pleased with the results: "When I saw my harvest, I thought I was seeing angels," said one of the farmers.

IFDC scientists working in sub-Saharan Africa believe in the African proverb: "There is more wisdom in listening than in speaking." It has been said that an essential part of listening involves temporarily setting aside one's own prejudices, frames of reference, and desires so as to experience as far as possible the speaker's world from the inside. "The farmers tell us about their problems; we listen and discuss what to do," says Maatman. "Rather than imposing on farmers our own ideas of how much fertilizer to apply in bad years, the farmer is allowed to reduce the amount of fertilizer applied so that he can reduce his losses," says Maatman. "Then in the following better years, he can apply more and "catch up" on profits.

Two of the farmers who have benefited from this technology are the Togolese farmers, Madja Koumboguidja and his wife Gbanyab. With their five children, Madja's mother, a daughter-in-law, and a grandson, they live on a 3-ha farm that Madja inherited. They grow millet, pigeon peas, cotton, and a small amount of tobacco and rice. Their region receives about 1,000 mm of rainfall annually. Soil fertility is very low and is the main agro-ecological factor limiting crop production. The husband and wife farmers have developed and adopted many ideas related to improving soil fertility so that they can make a living from their small farm. Their innovative farming system is based on integration of crop, livestock, and agro-forestry elements, which enable them to gradually intensify agricultural production, using a combination of organic and mineral fertilizers. When Madja inherited his farm, fallowing of fields—as his father had done—was no longer possible because of population pressures. Times were



Photo, Africa Division

very hard, and hunger was a fact of life. This situation pushed Madja and his wife to explore possibilities for innovation and made them the eager learners they have become. The innovative farmers purchased new agricultural equipment such as a plow and an oxcart for carrying compost to the fields. Madja says that in a good year he can triple his production with the use of compost and erosion control. After obtaining credit to purchase mineral fertilizer, Madja has quadrupled his yields. Other innovations on their farm include crop association, rotation, and diversification. For each primary soil type, Madja developed a different management strategy. These strategies are very diverse and often complex as the dosage and type of fertilizer applied varies with soil type, the history of the specific fields, the amount and period of rainfall, the crop association, the rotation, and the availability of financial resources at that time. The innovations that helped Madja and his family to increase their agricultural production have enabled him to feed his family, buy agricultural equipment, and increase the number of animals he owns. It also allows him to buy mineral fertilizer not only on a credit basis but also with cash. His increased income has also made it possible for his family to buy new clothes for special occasions, and the old ones have become working uniforms. His family can now afford to buy shoes, and last but not least, Madja and his wife are able to send all of their five children to school.

Besides working with their farmer collaborators, IFDC scientists cooperate with both international and national agricultural research institutes to develop new ideas on ISFM technologies for different agro-ecological zones. "Technological options that appear to be of interest for the ISFM village-level projects are considered for experimentation through a participatory screening process that involves IFDC, the partner institutions, and the target farmers," Maatman says. "Farmer's experiments and alternative ideas are also considered. The process results in the design of mutual learning plots, i.e., experiments set up with the farmers to test and fine tune ISFM options."

Because it integrates social, economic, agronomic, and environmental issues, soil fertility improvement is now being recognized as an effective tool for improving farmers' livelihood and promoting food security, rural development, and natural resource management.

Advances in Policy and Market Reform Lead to Economic Development

Despite the progress made in ISFM, constraints still exist to impede the development of food security in sub-Saharan Africa. Several factors have discouraged investment in the agribusiness sector in sub-Saharan Africa. Many governments have sought to fix low food prices to protect consumers while production shortfalls have been compensated by imports. In addition, there is a lack of storage and marketing systems, and transportation costs are high.

IFDC has played a significant role in bringing together the various parties involved to promote sustainable agricultural input supply systems—the vital first step in transforming sub-Saharan Africa's agricultural sector. IFDC advocates a holistic approach to developing agricultural input markets. This approach originates from the realization that even though effective demand from farmers is the ultimate driving force of the input supply system, farmers and farm production are part of the total agribusiness system, and its performance depends on the weakest link in the system.

IFDC proposes a distribution framework that recognizes that sustainable input supply systems are driven by demand-pull forces, namely profit, the level of risk, and the amount of non-farm income. Previous strategic thinking was centered on a supply-push approach, which had achieved only limited success because sustainable distribution systems failed to take root in local communities. Increasing the opportunities for profitable activities, the reduction of risk, and supplementary sources of income are to be encouraged. Nevertheless, IFDC recognizes that in no case should input market development and the use of fertilizer be regarded as substitutes for proper soil management practices. On the contrary, they are important components of the national soil fertility management strategy.

IFDC suggests above all that agriculture in sub-Saharan Africa should be promoted as a business, which implies these initiatives:

- Developing private integrated input market networks.
- Establishing market information systems adapted to liberalized markets to monitor supply and demand and prices, overcome barriers to reform, and provide information to market participants.
- Liberalizing the rural financial system by nurturing private sector lending, increasing private-sector access to capital, developing human capital, and monitoring credit repayments.
- Supporting research and extension work to develop better technologies and educate farmers.
- Monitoring and assessing the impacts of reforms to permit changes to be made to increase the chances of success of the reform process.

IFDC emphasizes that the reforms should be science-based, according to an assessment of the existing marketing system and not according to a prototype of how it should function. The framework proposed by IFDC recognizes that the transition process may involve difficult trade-offs. The rate of change in the transition process should be tailored to each individual country's political and economic circumstances and the level of development and complexity of each input sub-sector.

Highlights of Policy and Market Development

IFDC's specific achievements during 2002/03 in the policy and market area are highlighted.

♦ Advocacy for promotion of soil fertility improvement strategies and action plans.

- Organized "open days" on soil fertility improvement for policy makers in Mali and Ghana.
- Assisted in developing a fertilizer and seed quality control regulatory system in Burkina Faso and Ghana.
- Finalized a national action plan for soil fertility improvement in Mali.

♦ Empowerment of farmers to participate in the creation of an enabling environment for investments in soil fertility improvement.

- Conducted a training workshop for leaders of farmers' organizations on the theme, "Reinforcement of the capacities of leaders of farmers' organizations in the supply and distribution of agricultural inputs and marketing of produce."
- Completed and published a synthesis document in English and French on the strengths and weaknesses of farmers' organizations in Burkina Faso, Ghana, and Mali.
- Completed an in-depth study on the cotton producers' union in Burkina Faso to learn how they are organized, how they interact with their elected leaders, how they participate in decisions made by the union, and how they are linked with decision makers.

♦ Empowerment of the private sector input dealers to participate in the creation of an enabling environment that encourages investments in inputs and outputs market development.

- Completed an exploratory study of the status and functioning of the private sector input dealers and their associations in Burkina Faso, Ghana, and Mali.

Photo by Issaka Sanlamboulga

- Organized a Regional Meeting for the Associations of Input Dealers for about 60 participants from 20 national, regional, and international associations in 14 countries.
- Provided technical assistance to the nascent national agricultural input dealers' associations in Mali, Burkina Faso, and Ghana.

♦ Assistance in the creation of market transparency for inputs and products.

- Partnered with existing and new networks of market information systems in Ghana, Mali, Burkina Faso, Togo, and Nigeria to form the African Agricultural Market Information Network (AFAMIN) and developed a web-based agricultural inputs market information system (www.afamin.net).
- Collaborated with the private and public sectors and farmers' organizations in data collection, training, analyzing, and diffusion of market information for the AFAMIN web site, which serves as a medium of exchange for the emerging Regional Association of Agricultural Input Dealers in the sub-region.

IFDC's accomplishments in sub-Saharan Africa's agricultural sector go a long way toward providing a sound template and for leaving far less to chance.

Promoting Prosperity and Peace Through Training

Photo, IFDC/ Azerbaijan

An IFDC-conducted workshop on "Designing Policies and Institutions that Promote Competitive Agricultural Input Markets in Transitional Economies," which was held in Baku, Azerbaijan, during April 2003 may provide the spark that is needed to resolve the constraints that are faced by private sector dealers in that country. The workshop attracted 51 participants from 8 countries: Albania, Azerbaijan, Georgia, Kazakhstan, Kyrgyzstan, Tajikistan, Turkmenistan, and Uzbekistan. The purpose of the workshop was to promote the development of agricultural inputs markets in the transitional economies through appropriate policies and supportive institutions. The workshop's main objectives were to assess the functioning and performance of input supply systems in transitional economies, to identify the policies and institutions needed to develop well-functioning input markets, and to share experiences and lessons among different country participants.

This workshop is just one example of the kinds of training programs and workshops that have been conducted by IFDC since 1974. The Center has held more than 640 workshops, study tours, and training programs for more than 8,400 participants from some 150 countries since its inception. These programs have covered a wide range of subjects including fertilizer marketing, production, distribution and handling, and numerous specialized subjects. In recent years, related courses on integrated soil fertility management; computer modeling and simulation; fertilizer recommendations; environmental issues; and safety of fertilizer production, handling, and use have attracted participants from around the world.

During 2002/03 IFDC developed, organized, and conducted training opportunities in several areas, including the development of competitive agricultural input markets for small enterprises; integrated soil fertility management in the tropics; marketing skills and forecasting principles, policies and institutions that promote competitive agricultural input markets in transitional countries; nitrogen and phosphate fertilizer production technology, and phosphate fertilizer production technology.

In addition to these general training programs and workshops, IFDC's project offices have conducted a multitude of programs in Albania, Azerbaijan, Bangladesh, Burkina Faso, Ghana, Kyrgyzstan, Mali, Nigeria, and Togo. In 2002, for example, IFDC's 12 overseas projects conducted 152 training programs for 7,335 participants. A few of the topics of the training programs conducted by the various projects include olive oil processing; quality improvement for marketing herbs and spices; pest/disease management in intensive horticulture; new techniques in potato cultivation; wheat and potato fertilizer topdressing; strategic planning for trade associations; drip irrigation; and training for the private sector extension service provider.

Photo by Ramon Lazo de la Vega

Delegates from the Polish fertilizer industry, who participated in an IFDC study tour, visit an IMC phosphate mine at Mulberry, Florida (U.S.A.)

Why We

Work

Photo Essay

IFDC Helps Fulfill Life Wishes of People Around the World

Afghanistan

Armed with high-yielding wheat seed and modern fertilizer provided by ICARDA and IFDC, through a unique private sector voucher system, we Afghan farmers are fighting back from the brink of starvation to rebuild our country's agriculture.

—An Afghan farmer
Charikar, Afghanistan

Kept in the shadows of Afghan society for decades, we are learning that ours is a central role in rebuilding our country, helping Afghanistan rise from the ashes of war to a future of hope.

—Young girls in a makeshift school,
Kabul, Afghanistan

Photos by Larry Klaas

Albania

Labeled "liquid gold" by the Greek poet Homer, olive oil has been more than mere food to Mediterranean people. It has been an endless source of fascination and wonder and the fountain of great wealth and power. Following a long tradition in Albania, my family and I have operated an olive oil processing company since 1995. With the encouragement and information from the IFDC project in Albania, we are now able to manufacture a product that is new to our country—extra-virgin olive oil.

—Anastas Gjikondi
Albanian Olive Oil Processor

Photo, IFDC/Albania

Azerbaijan

Apples are really amazing; they are so versatile and can be used in so many varied products. No wonder people believe that a daily apple will keep the doctor away and eat millions of tons worldwide. As an apple grower in Azerbaijan, I have already benefited from the IFDC project in my country. By using the improved technology, I was able to produce larger, better apples and my profits have increased.

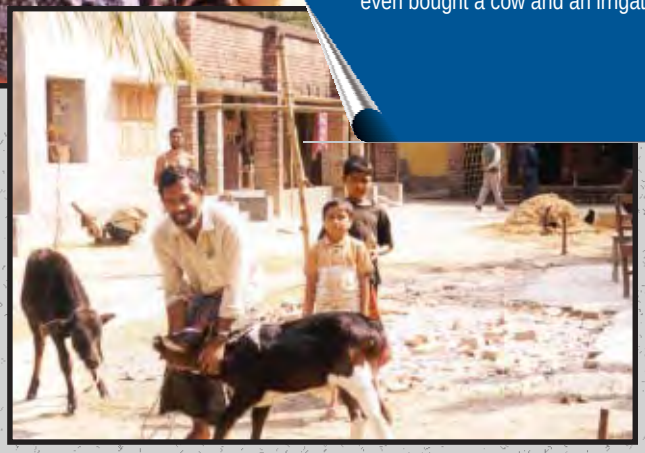
—Saday Zeylanov
Apple Grower in Azerbaijan

Photos, IFDC/Azerbaijan

Bangladesh

Life for my family and me used to be extremely difficult; fertilizing our rice crop meant broadcasting urea. Much of the fertilizer was lost—never to be used by the rice plants. By using IFDC's UDP technology, my family and I can now produce much more rice on our small farm near Sherodha, Bangladesh. With our increased profits, we repaired our house, purchased new clothing, and paid for our children's schooling. We even bought a cow and an irrigation pump.

—Abdul Jalil
Rice Farmer
Sherodha, Bangladesh



Photos by Dr. Thomas P. Thompson

"We listen to the farmers...We hear their problems...We develop solutions together."

—Dr. Arno Maatman
Program Leader
Input Accessibility Program
IFDC Africa

Photo, IFDC Africa

Benin

Since becoming involved in the ISFM project, I feel better about myself—I now have a "say" in family matters. As a woman farmer in the small village of Ahohoue, Benin, in West Africa, I have learned many new farming methods from the extension workers and by sharing experiences with other farmers. Now I always make a profit from my maize and cowpea crops unless the rainfall does not come. With my farm's profits, I have built two small houses, bought clothes, and sent my four children to school.

—Elisabeth Robert
Ahohoue, Benin

Photo by Marie K. Thompson

Ecuador

Photo by Dr. Walter T. Bowen

We are working with scientists from IFDC and INIAP to find better ways to manage the rotation of our pasture and potato crops. The scientists are working in four provinces to collect information from the fields, developing databases on the soils and climate, and applying crop models to analyze with us the likely outcome of different situations.

—Andean farmers in Ecuador

Kenya

Photo by Dr. Dennis K. Friesen

We are working with IFDC and CIMMYT scientists to test new farming practices that will increase our crop production.

—Kenyan farmers and extension workers

Kyrgyzstan

Photos, IFDC/Kyrgyzstan

With the opening of my new agro shop called "Priroda," which means "Nature," I am off on a new venture. My shop is the first of its kind in southern Kyrgyzstan. Because of my involvement in an agribusiness association as an active member and Board member, I have learned how to organize and conduct an agribusiness in the private sector. Since I am one of only a few women involved in agribusiness in Kyrgyzstan, I realize that I am a kind of pioneer. With IFDC's encouragement and information, shops like mine are now selling high-quality agricultural inputs. My shop sells mineral fertilizers, imported and local seeds, potted plants, and CPPs to rural farmers and urban gardeners of flowers and vegetables. Other entrepreneurs are planning to follow my example by opening shops in their villages. We are realizing the benefits of a free market system in our country.

—Primova Klara Bozulanovna
Agricultural Inputs Dealer
Osh, Kyrgyzstan

Malawi

We are the children of Malawi. The United Nations says that nearly 2 million of us are orphans because of the AIDS crisis. Half of us suffer from severe malnutrition. Our wish is that organizations like IFDC can offer us hope for a brighter future since we will be the leaders of tomorrow.

—The Forgotten Children of Malawi

Photos, IFDC/Malawi

Nepal

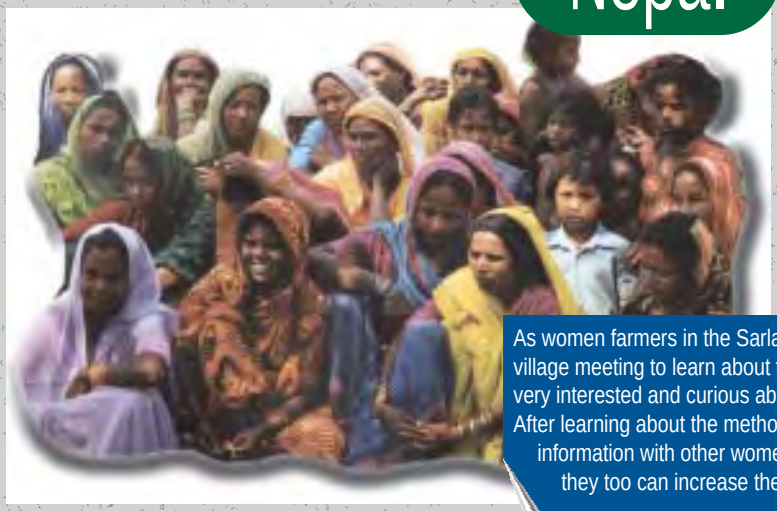


Photo by Dr. Thomas P. Thompson

As women farmers in the Sarlahi area of Nepal, we attended a village meeting to learn about the practice of UDP. We were very interested and curious about this new farming method. After learning about the method, we will gladly share the information with other women farmers so that they too can increase their rice production.

—Women farmers of the Sarlahi Area
Nepal

ANMAT Photo

How green is my paddy in the hills of Nepal. Before hearing about the IFDC UDP technology, I used to apply urea three times per crop. When I learned about the amazing results of the UDP trials, I decided to try the technology for myself. Using the new fertilizer has had a good impact on my improved variety of paddy; in fact, my paddy yield was increased by 20%-35%. Besides growing rice we have 3 buffaloes, 7 goats, and 2 pigs on our farm.

—Mr. Rajan Ale
Tanahun District
Malebagar of Bhimad
Nepal

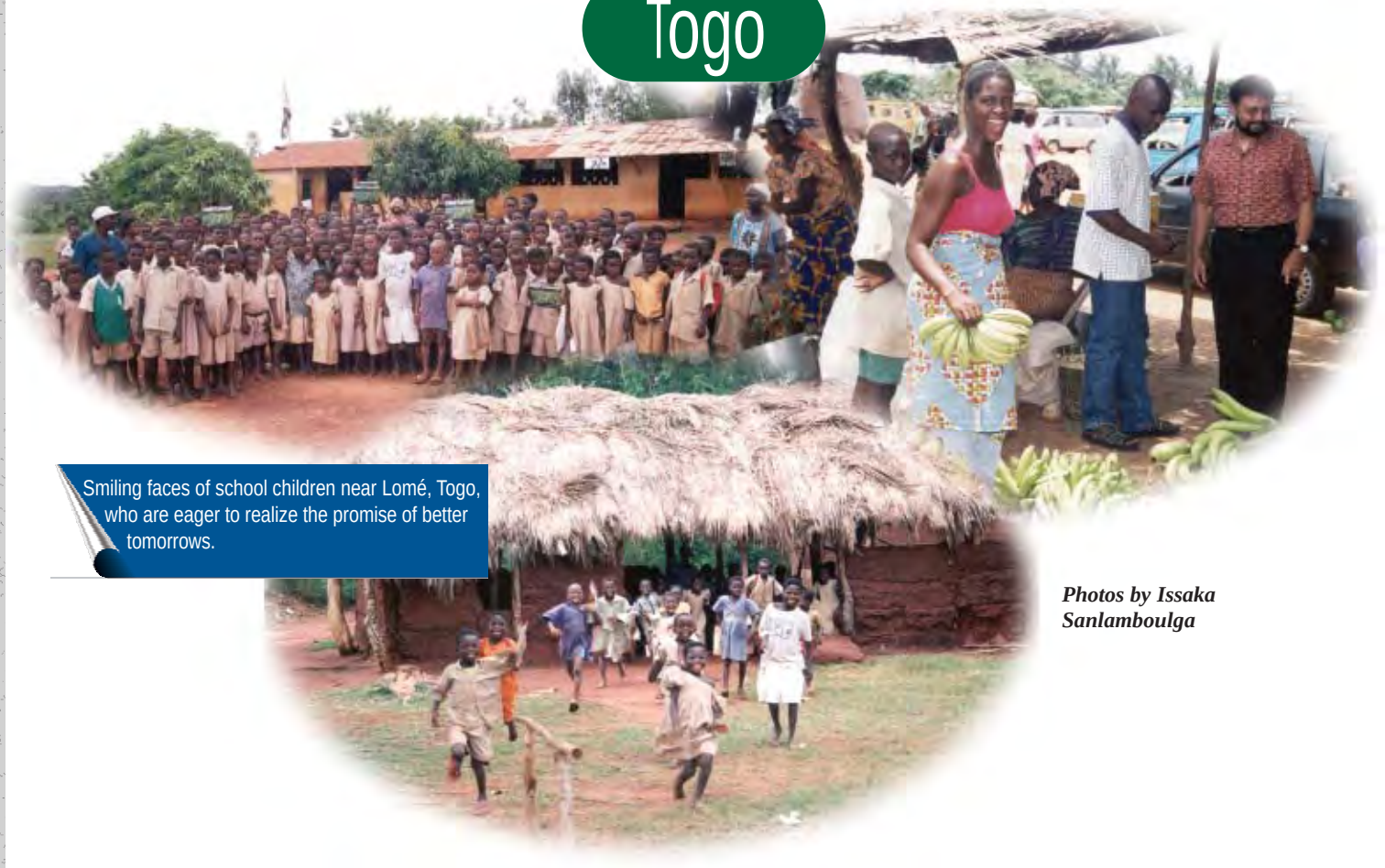
Peru

By improving the management of fertilizer on our fields, we are reaping greater harvests of potatoes. We often work on each other's fields and use inorganic and organic fertilizers to increase our yields.

—Andean farmers in Peru

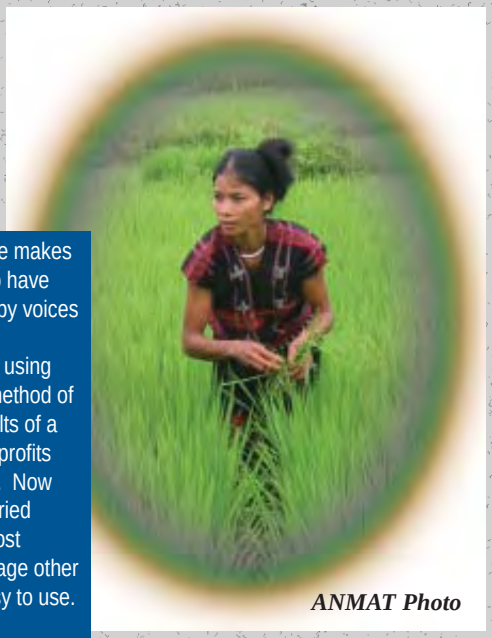
Photo by Dr. Walter T. Bowen

Togo



Smiling faces of school children near Lomé, Togo, who are eager to realize the promise of better tomorrows.

Photos by Issaka Sanlamboulga



ANMAT Photo

Seeing the yellow ripe ricefields of the Thua Thien Hue province makes me very happy. I am one of many Vietnamese rice farmers who have applied IFDC's UDP technology to their fields. Hearing the happy voices of other farmers as they harvest their spring 2003 crop, I can understand their pleasure upon seeing their high yields. Before using the UDP technology, we applied fertilizer using the traditional method of broadcasting many times. At a farmers' meeting I saw the results of a UDP demonstration plot and heard about its effectiveness and profits from agricultural extension workers and demonstration farmers. Now my family is seeing a wonderful change—no longer are we worried about having enough daily rice for our family. My yield has almost doubled and my income has increased. I will happily encourage other farmers to adopt the UDP technology because it is so easy to use.

—Mrs. Kien Thi Yeu
Huong Huu Commune
Nam Dong District
Thua Thien Hue
Province
Vietnam

Vietnam

Like many other Vietnamese women, I have learned to make and sell hats to add to my family's household income. Now I am very happy that I can provide more food and income for my family by using the UDP technology on our rice fields.

Woman Rice Farmer
Nam Dong District
Thua Thien Hue Province
Vietnam

Photo by Dr. Thomas P. Thompson

Our country is one of the world's poorest with almost 86% of our people living below the poverty line. Millions of us lack adequate food and water. Drought has sharply reduced crop yields and cereal harvests in over half of our country. Thirteen percent of us are orphaned because of HIV/AIDS. Millions in our age group are severely malnourished and must scrounge for a living on the streets.

—The Children of Zambia

Zambia

Photos by M. Feisal Beig

IFDC Project Portfolio, 2002/2003

Project	Objective	Collaborators	Location
AAATA	To nurture private sector-led growth in agriculture and agri-business in Albania	Entrepreneurs, decision makers	Albania
AAATA Development of Agricultural Statistics	Support the Ministry of Agriculture of Albania in development of sustainable services in agricultural statistics	Public and private sector offices and NGOs	Albania
AMDA	To improve agro-input marketing and accessibility in Azerbaijan	Agro-input dealers, farmers	Azerbaijan
ANMAT Project	To promote the adoption of balanced fertilizer use and improved efficiency of fertilization in Bangladesh, Nepal, and Vietnam	NGOs, extension services	Bangladesh, Nepal, Vietnam
Café Project	To develop a framework using remote-sensing observations and climate and biophysical models for predicting seasonal-to-interannual climate fluctuations	Columbia University	Uruguay
CNDC I Project	To combat nutrient depletion of soils in SSA	TSBF/CIAT, NARES, universities	Burkina Faso, Mali, Ghana, Togo, Benin, Nigeria
CNDC II Project	To combat nutrient depletion of soils in SSA	TSBF/CIAT, NARES	Togo, Benin
COSTBOX Project	To develop methodologies to encourage systems approaches in SSA	NARES, universities	Togo, Benin, Ghana, Nigeria
Darégal Study	To conduct a study on improved and integrated soil fertility management for peri-urban agriculture with emphasis on basil cultivation around Lomé, Togo, at two sites: Adétikopé (Darégal farm) and Baguida (vegetable growers)	Darégal, vegetable farmers	Lomé – peri-urban agriculture farmers
Desert Margins Project	To mitigate the effect of drought and to combat desertification in Sub-Saharan Africa	NARES, NGOs decision makers, ICRISAT	Sahelian countries
Developing Agro-Input Markets in Nigeria	To improve policies and regulatory regimes related to agri-inputs and to develop systems for providing market information and access to credit	IITA, farmers	Nigeria
Development and Dissemination of Sustainable Integrated Soil Fertility Management Practices for Small-holder Farms in SSA	To improve plant nutrient management in resource-poor areas of SSA	TSBF	West Africa
East and Central Africa Maize and Wheat Network Project	On-farm evaluation of maize varieties; soil fertility enhancement; soil moisture conservation; agronomic methods to control Striga	CIMMYT NARS scientists	Kenya, Ethiopia, Tanzania Uganda
Emergency Supply of Fertilizer	To assist Afghanistan in resurrecting its critical agricultural sector	Ministry of Agriculture, ICARDA, NGOs	Afghanistan

IFDC Project Portfolio, 2002/2003 (Continued)

Project	Objective	Collaborators	Location
Enterprise Development Project (EDP)	To improve agribusiness prospects in the Ferghana Valley in Central Asia	Pragma	Kyrgyzstan
FASEPE Project	To promote sustainable agricultural production and market development by improving necessary socio-economic and policy conditions	Farmer-based organizations, public and private sector	West Africa
Food for Progress Program	To support private sector development of agribusiness enterprises engaged in feed milling, meat, dairy, and egg production by providing technical assistance and linkages to world market sources and by promoting market development programs	Agricultural input dealers	Albania
Ghana Agro-Input Market Strengthening (GAIMS)	To develop technical and business training programs for agricultural input dealers and importers in Ghana	Dealers, importers	Ghana
GISD	To increase access to geo-spatial data and tools that can help increase agricultural production and food security	USGS, AfriCover, Open GIS Consortium	Headquarters
IDSS for Uruguay	Land feasibility studies; national/regional crop yield forecasts; drought/flood alert systems; agronomic recommendations	INIA, IAPAR, INTA, NASA	Uruguay
Institutional Capacity Building Agro-Input Market Development in Malawi	To strengthen agro-input markets by deepening policy reform, establishing regulatory systems, developing capacities of private sector dealers, and expanding market information systems	Agri-input dealers	Malawi
Integrated Natural Resource Management in Mountain Agroecosystems	To increase and improve productive and sustainable natural resources management in selected mountain areas	CIP, CIAT, CONDESAN	Ecuador, Peru, Bolivia, Colombia, Venezuela
ISFM Project (which combines the F&SAD and FfF projects)	To promote ISFM strategies at the village and regional levels and to develop sustainable linkages of farmers to input/output markets	NGOs, NARES, farmers, bankers, traders, and policymakers	Benin, Burkina Faso, Ghana, Mali, Niger, Nigeria, Togo
KADP	To establish in Kosovo a trade association support network for agri-input and agribusiness development	Agro-input dealers	Kosovo
KAED	To support the development of agro-input dealers and increase agricultural production through use of improved technologies	Agro-input dealers, decision makers	Kyrgyz Republic
Kosovo Feed for Poultry Project (KFPP)	To improve the adoption of new technologies by producers in the feed-grain, milling, and poultry subsector	Save the Children, agricultural processors, farmers, poultry producers	Kosovo
MOSAndes Project	To develop soil management practices to enhance productivity of Andean soils	CIP, CIAT, and universities, NARIs, and NGOs in Bolivia, Peru, Ecuador, Colombia and Venezuela	Bolivia, Colombia, Ecuador, Peru, Venezuela

IFDC Project Portfolio, 2002/2003 (Continued)

Project	Objective	Collaborators	Location
PDES Project	To enhance crop and animal production through integrated soil fertility management	NARES, NGOs in Burkina Faso	Soum Province, Burkina Faso
Policy Reform to Enhance Trade of Agricultural Inputs in West Africa	To promote regional fertilizer and seed trade associations in West Africa and synchronized trade policies governing agri-inputs	USDA, ASTA	West Africa
Promoting Agricultural Development Through the Creation of a Regional Agricultural Inputs Market in West Africa (MIR)	To strengthen the private sector and create a regional market in West Africa	UEMOA, ECOWAS, ROPPA, RECAO, CMA/WCA, private input importers and dealers, Sector Ministries	Burkina Faso, Benin, Ghana, Mali, Nigeria, Togo
Promoting Sustainable Agricultural Inputs Markets in SSA	To produce practical guide for fostering open, private sector, competitive, and reliable distribution networks for agri-inputs	Agri-input dealers	Nigeria, Malawi, Ghana, Mali, Uganda, Zambia, Tanzania
Tradeoffs Project	To develop decision support system for assessing tradeoffs between agricultural production and impact on environment and human health	Montana State University, CIP, CIAT, Wageningen University, INIAP PRONAMACHS	Peru Ecuador

IFDC Publications, 2002/2003

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FSR-2 *Asia Fertilizer Situation.*
FSR-3 *Latin America Fertilizer Situation.*
FSR-5 *North America Fertilizer Capacity*.
FSR-6 *Eastern Europe Fertilizer Situation*.
FSR-7 *Worldwide Urea Capacity Listing by Plant.*
FSR-8 *Worldwide DAP and MAP Capacity Listing by Plant*.
FSR-9 *Worldwide Potash Capacity Listing by Plant.*
FSR-10 *Worldwide Ammonia Capacity Listing by Plant*.
FSR-11 *Worldwide Directory of Fertilizer Traders, Importers, and Organizations*.
FSR-14 *Worldwide Ammonium Nitrate and Calcium Ammonium Nitrate Capacity Listing by Plant*.
FSR-15 *Recent Fertilizer Project Announcements: Worldwide*.
FSR-16 *Global and Regional Data on Fertilizer Production and Consumption, 1961/62-2000/01*.
FSR-18 *Western Europe Fertilizer Situation*.
FSR-19 *Former Soviet Union (FSU) Fertilizer Situation*.
FSR-20 *North America Fertilizer Situation*.
FSR-21 *China Fertilizer Situation* .
FSR-22 *Worldwide NPK Capacity Listing by Plant.*
FSR-23 *Worldwide Phosphoric Acid Capacity Listing by Plant.*
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P-25 *An Action Plan for Developing Agricultural Input Markets in Malawi* (2002).
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PCD-27 *An Assessment of Fertilizer Prices in Kenya and Uganda: Domestic Prices vis-à-vis International Market Prices* (2003) (CD-ROM).
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IFDC Financial Highlights, 2002

The following is a summary of financial information for the year ended December 31, 2002. The full financial statements and the independent auditors' reports are available from IFDC upon request.

Balance Sheet

For the year ended December 31, 2002

	US $'000
Assets:	
Cash and cash equivalents	1,534
Contributions receivable	1,487
Contracts receivable, net of allowance for doubtful accounts	1,316
Other receivables	226
Supplies inventory	80
Prepaid expenses	183
Total current assets	4,826
Buildings and equipment, net	1,271
Contributions receivable, noncurrent	
Total assets	6,097
Liability and Net Assets:	
Accounts payable	647
Accrued annual and sick leave	388
Deferred revenue	1,519
Total current liabilities	2,554
Unrestricted net assets	3,535
Permanently restricted assets	8
Total liabilities and net assets	6,097

Statement of Revenue and Expenses

For the year ended December 31, 2002

	US $'000
Revenue and Support:	
Engro Chemical Pakistan Ltd.	64
International Fertilizer Industry Association	194
International Fund for Agricultural Development	498
Ecoregional Fund	176
Netherlands Ministry for Development Cooperation (DGIS)	1,129
Shell Canada Ltd.	211
The Fertilizer Institute	138
The World Bank	16
U.S. Agency for International Development	14,901
U.S. Department of Agriculture	167
U.S. Department of Treasury	496
Training Programs	116
Others	569
Total revenues and support	18,675
Expenses:	
Field programs	2,487
Research	3,680
Market development	10,447
Support activities	2,394
Total expenses	19,008
Decrease in unrestricted net assets	**(333)**

IFDC Revenue Sources, 2002/2003

Canadian International Development Agency (CIDA)
CARE International
Cargill Fertilizer
Carter Center
Chemical Industries of Senegal (ICS)
Columbia University
Department for International Development (DFID)
Ecoregional Fund
Engro Chemical Pakistan Ltd.
European Union
Government of Morocco
Government of Togo
Indian Farmers' Fertiliser Cooperative, Ltd. (IFFCO)
Krishak Bharati Cooperative, Ltd. (KRIBHCO)
National Agricultural Research Institute (INIA)
International Atomic Energy Agency (IAEA)
International Fertilizer Industry Association (IFA)
International Fund for Agricultural Development (IFAD)
Japan International Research Center for Agricultural Sciences (JIRCAS)
Mississippi State University
Netherlands Ministry for Development Cooperation (DGIS)
Nieorganika (Poland)
Norwegian Agency for Development Cooperation (NORAD)
NuWest Industries
Sasakawa Global 2000
Shell Canada
Sociedade Productora de Adubos Compositos, S.A. (SOPAC)
Société Sénégalaise des Phosphate de Thies (SSPT)
Swiss Agency for Development and Cooperation
The Arab Fertilizer Association (AFA)
The Federal Ministry for Economic Cooperation and Development (Germany) (BMZ)
The Fertilizer Institute (TFI)
The World Bank
United States Agency for International Development (USAID)
United States Department of Agriculture (USDA)
United States Department of the Treasury
U.S. Borax, Inc.
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1. Left during 2002/2003.
2. Retired during 2002/2003.
3. Short-term staff, 2002/2003.
4. On extended leave.
5. Deceased, 2002/2003.
6. Student Attachment.

a. Seconded to IFDC by Netherlands Minister for Development Cooperation (DGIS).
b. Seconded to IFDC by Agricultural University (Netherlands).
c. Seconded to IFDC by Deutsche Entwicklungsdienst (DED).

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(as of August 31, 2003)

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Acronyms

AAATA—Assistance to Albanian Agricultural Trade Associations
AAK—Association of Agribusinessmen of Kyrgyzstan
ADMARC—Agricultural Development and Marketing Corporation
AFA—The Arab Fertilizer Association
AFAMIN—African Agricultural Market Information Network
AKA—Alliance of Kosovar Agribusiness
AMDA—Agro-Input Market Development in Azerbaijan
ANMAT—Adapting Nutrient Management Technologies
AROs—advanced research organizations
ASTA—American Seed Trade Association
BMZ—The Federal Ministry for Economic Cooperation and Development (Germany)
CIAT—International Center for Tropical Agriculture
CIDA—Canadian International Development Agency
CIMMYT—International Maize and Wheat Improvement Center
CIP—International Potato Center
CMA/WCA—Conference of Ministers of Agriculture of West and Central Africa
CONDESAN—Consortium for the Sustainable Development of the Andean Ecoregion
COSTBOX—Client-Oriented Systems Tool Box
CPP—crop protection product
CYTED—Ibero-American Program for Science and Technology in Development
DAIMINA—Developing Agricultural Input Markets in Nigeria
DFID—Department for International Development
DGIS—Netherlands Ministry for Development Cooperation
DINAREN—Natural Resources Program
ECAMAW—East and Central Africa Maize and Wheat Research Network
ECOWAS—Economic Community of West African States
EDP—Enterprise Development Project
FASEPE—Favorable Socioeconomic and Policy Environments for Soil Fertility Improvement
FEWSNET—Famine Early Warning Systems Network
GAIMS—Ghana Agri-Input Market Strengthening
GDP—gross domestic product
GEF—Global Environment Facility
GIS—geographic information system
GISD—Geographic Information for Sustainable Development
IAEA—International Atomic Energy Agency
IAPAR—Agronomy Institute of Paraná
IARCs—international agricultural research centers
ICARDA—International Center for Agricultural Research in the Dry Areas
IDRC—International Development Research Centre
IDSSs—Information and Decision Support Systems
IFA—International Fertilizer Industry Association
IFAD—International Fund for Agricultural Development
IFFCO—Indian Farmers' Fertiliser Cooperative, Ltd.
IITA—International Institute for Tropical Agriculture
INAMHI—Ecuadorian Institute for Meteorology and Hydrology
INIA—National Agricultural Research Institute
INIAP—National Agricultural Research System
INTA—National Institute of Agricultural Technology
ISFM—integrated soil fertility management
JIRCAS—Japan International Research Center for Agricultural Sciences
KADP—Kosovo Agribusiness Development Program
KAED—Kyrgyz Agro-Input Enterprise Development
KASH—Albanian Agribusiness Council
KFPP—Kosovo Feed for Poultry Project
KRIBHCO—Krishak Bharati Cooperative, Ltd.
MASIP—Malawi Agricultural Sector Investment Process
MIR—Marketing Inputs Regionally
MOAI—Ministry of Agriculture and Irrigation
MOAL—Ministry of Agriculture and Livestock
MOS Andes—Management of Soils in the Andes
NARES—national agricultural research and extension systems
NARIs—national agricultural research institutes
NARS—national agricultural research systems
NASA—National Aeronautics and Space Administration
NEPAD—New Partnership for Africa's Development
NGOs—nongovernmental organizations
NORAD—Norwegian Agency for Development Cooperation
PDES—Livestock Development Program of the Soum Province, Burkina Faso
PROMSA—Ecuador's Agricultural Services Modernization Program
PRONAMACHS—National Program of Watershed Management and Soil Conservation, Peru
RECAO—Network of Chambers of Agriculture
ROPPA—Network of Farmer Organizations and Agricultural Producers of West Africa
SOPAC—Sociedade Productora de Adubos Compositos, S.A.
SSA—sub-Saharan Africa
SSPT—Société Sénégalaise des Phosphate de Thies
TFI—The Fertilizer Institute
TSBF—Tropical Soil Biology and Fertility Programme
TSP—triple superphosphate
UDP—urea deep placement
UEMOA—West African Economic and Monetary Union
UMG—urea megagranule
UNDP—United Nations Development Programme
USAID—U.S. Agency for International Development
USDA—United States Department of Agriculture
USG—urea supergranule
USGS—U.S. Geological Survey