

IFDC

Report

An update on the work and progress of IFDC

Sufficient Phosphate Rock Resources Available for Years

The IFDC study “World Phosphate Rock Reserves and Resources” estimates that global resources of phosphate rock will be available for the foreseeable future, based on current consumption rates. The report was written by geologist Steven J. Van Kauwenbergh, a principal scientist and leader of IFDC’s Phosphate Research and Resources Initiative. The report contains specific information regarding how much phosphate rock remains in deposits located around the world.

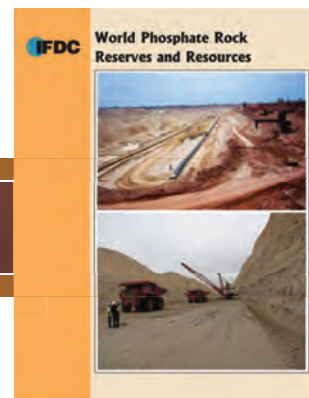
Why is this important? Phosphate rock is the primary source for phosphorus – one of three elements critical to plant growth (along with nitrogen and potassium). “There is no substitute for phosphorus in agriculture, or indeed in life,” according to Van Kauwenbergh. “Phosphate rock is a finite resource. At some point in time, the earth’s supply may be exhausted.”

There has been intense speculation that world phosphate reserves are dwindling in amount and quality. Numerous sources even suggest that phosphate rock production will “peak”

in 2033-2034 and then decrease as reserves are depleted. Based on IFDC research, however, there is no indication that phosphate production will peak in the next 20-25 years or even within the next century. Assuming current rates of use, world phosphate rock reserves and resources should be readily available.

Because phosphate rock is a non-renewable resource, there should be a global effort to develop more effective phosphate rock mining and processing technologies and to utilize phosphate fertilizer, other phosphate-based products and phosphate-containing waste as efficiently as possible, while keeping unused nutrients out of watersheds and oceans. Taking these actions will decrease the overall amount of phosphate rock used, even if demand increases over time.
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Global Network Needed to Gauge Deposit Amounts



FEATURED ARTICLES

**PReFER Project
Begins in Rwanda**

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Attend 2010 World Food
Prize Meeting**

**World Policy Conference
in Morocco Focuses on
Global Food Security**

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IFDC is a public international organization, governed by an international board of directors with representation from developed and developing countries. The nonprofit Center is supported by various bilateral and multilateral aid agencies, private foundations and national governments.

IFDC focuses on increasing and sustaining food security and agricultural productivity in developing countries through the development and transfer of effective and environmentally sound crop nutrient technology and agribusiness expertise.

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Acronyms: FDP (fertilizer deep placement) • kg (kilogram) • UDP (urea deep placement) • USAID (U.S. Agency for International Development)

• VFRC (Virtual Fertilizer Research Center)

New EAD Projects

Accelerating Agriculture Productivity Improvement (AAPI)

The AAPI project is a five-year intervention that is designed to strengthen and re-orient agricultural production systems in Bangladesh. The project goals are to improve food security and accelerate income growth in rural areas by increasing agricultural productivity on a sustainable basis. The AAPI project emphases are on technology diffusion and development of support systems to achieve sustainability. The primary technology is fertilizer deep placement (FDP), which is well-suited to rice production. To a lesser extent, AAPI will support diffusion of a water use management technology referred to as Alternate Wetting and Drying (AWD). The project strategy involves close collaboration with key stakeholders, including the Bangladesh Ministry of Agriculture and the Department of Agricultural Extension. The project began on October 1, 2010, and is funded by the U.S. Agency for International Development (USAID).

Kyrgyzstan Agro-Input Enterprise Development Follow-On Project

The 2008-2010 Kyrgyzstan Agro-Input Enterprise Development II (KAED II) project demonstrated how a private sector, market-based response to the food crisis of 2008 could provide cost-effective support to farmers while providing incentives and the foundation for increased production and incomes. Under KAED II, USAID provided emergency relief by funding improved seed varieties, livestock feed and fertilizer, which were distributed at a subsidized cost through the private sector. The Follow-On Project will assist 20,000 farmers in planting improved wheat varieties and 80,000 others in adopting better farming and animal care practices. The Follow-On Project will run from 2010 to 2012 and is also funded by USAID.

Kyrgyzstan Local Economic Development Project (KLDP)

As a component of the Follow-On Project, KLDP will stimulate rapid, diversified and sustained agro-economic growth at the local level through advancements in Kyrgyzstan's business and investment environment. The project will increase municipal finance and capital investment and improve competitiveness of sectors with the most economic potential, specifically agriculture and processing. It will upgrade workforce education, replicate best practices and implement economic and administrative reforms at the national level. KLDP is funded by USAID.

Fertilizer System Revolutionizes Rice Farming in Bangladesh

[This article first appeared in the October 2010 issue of the U.S. Agency for International Development's FRONTLINES magazine. The information was provided by Ishrat Jahan, IFDC resident representative and team leader in Bangladesh, and edited by Mark Visocky, deputy office director for USAID/Dhaka.]

KASHIPUR VILLAGE, Bangladesh – Jahangir Howlader remembers it like it was yesterday. In 2007, Cyclone Sidr tore through southern Bangladesh's rice-growing area, wiping out his crops and those of his family, neighbors and friends. His vegetable gardens were washed away, large trees used for timber were scattered and his house was badly damaged.

"After Sidr, when I saw that I did not have any crops left on my land, I thought that I lost my life," said Howlader. Rice plays a key role in food security and income generation for small-scale farmers in Bangladesh.

Paradoxically, the devastation caused by the cyclone opened Howlader's eyes and mind to a new and more profitable way of rice farming.

Howlader received a visit from a team of extension agents from IFDC, who were promoting a fertilizer method known as urea deep placement (UDP). USAID, IFDC and Bangladeshi farmers are now scaling up this technology to smallholder rice farmers as part of USAID's new Feed the Future initiative, which calls for collective global action on agricultural development and food security. The goal is to reach two million Bangladeshi farmers in five years and increase rice yields by 67 percent.

Using this method, farmers place a mini-briquette, called Guti, near the roots of the rice plant, rather than spreading urea over the surface of the soil, which is the conventional method. The Guti, which is the size of a mothball, slowly releases nitrogen throughout the growing season.

The technology allows for better absorption and efficiency of the fertilizer while reducing runoff, and decreases the release of volatile greenhouse gas. Only one application of Guti briquettes is needed, compared with three applications of conventional fertilizer.



Howlader listened to the extension agents and decided to give the UDP method a try. To his surprise, his crop yields increased by 25 percent – and he saved money on expensive fertilizer.

Howlader is now spreading the good news about Guti fertilizer to all his neighbors, and hosted a field day promoting it to farmers and local extension workers. Most farmers in his area are now using the technology on their own fields and cultivating larger yields than before. They are also saving the environment from damaging pollution and greenhouse gas and, to date, they have saved the government \$1.4 million on fertilizer subsidies.

In two years, this USAID-supported project has reached over 400,000 farmers. Using UDP briquettes, fertilizer saving can reach 40 percent, and yields have increased by as much as a ton per hectare, leading to as much as \$200 in additional profits per hectare.

What started as a hopeless situation in the aftermath of Cyclone Sidr gave Howlader a new lease on life. He has become an "agricultural leader" in his community and is eagerly teaching others, especially women, so they may become socially independent. His farm now has livestock and a fish pond, all resulting from the larger income he has earned from a little product the size of a mothball.

"I cannot give money to others, but I can give good advice to help raise production. This advice will benefit people now and in the future. Maybe they will remember me and my name for this advice," said Howlader.

Photo: Bangladeshi farmer Jahangir Howlader is grateful to USAID and IFDC for helping him recover from Cyclone Sidr.

IFDC/USAID Success Story: New Technologies Increase Profits

“USAID and IFDC have helped me to double my income! I am now growing high quality corn,” said farmer Sabira Jumabaeva, who received humanitarian aid from USAID’s Kyrgyz Agro-Input Enterprise Development II (KAED II) project, implemented by IFDC.

Jumabaeva runs a family farm in southern Kyrgyzstan. She grows early potatoes and corn on 0.7 hectares. She formerly grew local varieties of corn and received low yields – about three to four tons – from her field.

Due to turmoil, the city of Osh in June 2010, many farmers in southern Kyrgyzstan did not have access to agricultural inputs. Jumabaeva was chosen as one of many farmers to receive humanitarian aid from the KAED II project. The seed company Pioneer Switzerland donated 20 tons of high quality hybrid corn seed (valued at US \$104,000) through the project’s Global Development Alliance partner, Eurasia Group Kyrgyzstan. Sixteen tons of seeds were distributed in northern Kyrgyzstan and four tons were distributed in southern Kyrgyzstan.

The hybrid corn seed was suitable for planting after the wheat harvest (end of June). It is the first time this new technology has been used in Kyrgyzstan. The hybrid seed gave farmers an opportunity to increase land-use efficiency by harvesting two crops in one season, improve livestock feed supplies and generate more income.

The project used private sector outlets for distribution, and seeds were delivered free of charge to beneficiaries within one week. Some 2,000 farmers in the north and 800 farmers in the south benefited from this intervention. Moreover, the project



Sabira Jumabaeva harvested 15 tons of corn from her field this year because of new seed technologies.

prepared and distributed leaflets, conducted seminars and produced and broadcast a 10-minute video to show farmers how to apply the correct growing techniques for high-yielding corn hybrids. The seeds and new technology helped increase crop yields and improve economic returns.

Jumabaeva is happy with the results from her field. “This year I harvested 15 tons of corn. This is the largest yield I have ever produced from my field.” She is planning to purchase modern compound fertilizers for spring planting. “I now realize that using quality inputs is a key to receiving high yields. This experience helped me to understand the importance of quality seeds and new cultivation technologies.”

Phosphate Rock Resources *(Continued from Page 1)*

IFDC is conducting research to increase the efficiency of both phosphate and nitrogen fertilizers. Most phosphate fertilizers were developed for use in temperate climates, and their efficiency is lessened in sub-tropical and tropical climates. IFDC is seeking methods to apply phosphate rock to crops directly or with minimal processing. This would increase the amount of phosphate the crop would absorb, while decreasing the amount of phosphate rock lost in processing and the amount of nutrients lost to the environment.

A key component of the report is the recommendation that an international, multi-disciplinary network be established to regularly update a new and improved database of global phosphate deposits. This IFDC study is a preliminary estimate of world reserves and resources based on the most accurate

information generally available. Van Kauwenbergh says that a more detailed and accurate estimate requires a collaborative effort by phosphate rock producers, government agencies, international organizations, academia and other stakeholders.

Copies of “World Phosphate Rock Reserves and Resources” can be ordered from the IFDC website (www.ifdc.org). Click on Media/Information, then Publications, then Publications for Sale and then Technical Bulletins. It is Technical Bulletin 75.

Check us out online at www.ifdc.org, and visit us on:



PReFER Helps Rwanda to Privatize its Fertilizer Sector

Rwanda is a densely populated nation in central Africa’s Great Lakes region. Agriculture represents 40 percent of Rwanda’s gross domestic product and employs 80 percent of its workforce. Therefore, the performance of its agriculture sector has a powerful impact on the country’s overall economy.

Increased use of both organic and inorganic fertilizer and other inputs is necessary to generate higher crop yields and to maintain food security in Rwanda. However, the use of fertilizer to increase crop yields is in an early stage of development.

The Rwandan government has enlisted IFDC’s assistance in transitioning out of nationalized procurement and distribution of fertilizer. The Privatization of Rwanda’s Fertilizer Import and Distribution System (PReFER) is a five-year project (2010-2015) funded by USAID and implemented by IFDC.

“USAID and IFDC are providing technical and business assistance through PReFER training programs to develop and professionalize importers and distributors in Rwanda. This will create a favorable environment to encourage private investment in the sector in collaboration with the government,” explained Martin Drevon, PReFER chief of party. Drevon was previously

the business development manager in Africa for the fertilizer company Yara and has worked in Africa for over 12 years.

A market-friendly fertilizer procurement and distribution system aligns with the Rwandan government’s private sector development strategy. IFDC identifies policies that support the private sector’s involvement in the fertilizer market and contributes to the development of a sustainable supply system. This effort is expected to stimulate fertilizer demand and will support the project’s objectives through agricultural intensification and market development of farm output. A core activity is the development of a Fertilizer Business Incubation Center (FBIC), which will offer business support to emerging private sector entrepreneurs involved in fertilizer supply and serve as a one-stop resource for all fertilizer stakeholders.

PReFER will partner with the AGRA-funded Rwanda Agro-Dealer Development (RADD) project and the EU-funded COMESA Regional Agro-Inputs Program (COMRAP). RADD and COMRAP are developing a trained private sector agri-input dealer network. The project will also work in close collaboration with the Rwandan Ministry of Agriculture and Animal Husbandry and the CATALIST project (funded by DGIS).

Improving Charcoal Production



Charcoal is a main source of fuel for cooking in Burundi, the Democratic Republic of Congo (DRC) and Rwanda.



Traditional methods of charcoal production are energy-inefficient, resulting in the loss of much of the wood while also damaging the environment. Through field training sessions, CATALIST/SEW is introducing improved kilns that increase the amount of charcoal produced while using less wood. This causes less pollution and provides more income for charcoal producers.



The Sustainable Energy Production Through Woodlots and Agroforestry in the Albertine Rift project (SEW) is being implemented by IFDC. SEW is helping decrease land competition between energy production and agricultural production. The project is achieving sustainable energy production based on reforestation and professionalization of the energy production sector.

IFDC participates in the Multi-Stakeholder Approach to Linking Technical Options, Policy and Market Access for Improved Land Productivity project. IFDC is implementing this project as the task force leader in the Northern Guinea Savanna Zone (NGS). The project implements the Integrated Agricultural Research for Development (IAR4D) approach using four innovation platforms (IP) for rice, vegetables, livestock and maize-legume.

The projects described in the next two articles are both part of the NGS project. The maize and double cowpea system has been introduced through the Maize-Legume IP, while the tomato initiative is led by the Vegetable IP.

Nigerian Farmers Double Incomes With Maize-Double Cowpea Cropping System

Nigerian farmers in the Ikara local government area are reaping the benefits of the maize-double cowpea cropping system, an innovation that generates significant financial returns while improving soil fertility.

In this cropping system, alternate rows of maize (110-day growing season) and cowpeas (60-day growing season) are planted at the same time. After harvesting the first cowpea crop around August, cowpeas with a 75-day growing season are planted in the same rows as the former cowpea crop. When the maize is harvested in late August, the area that was planted with maize is then planted with cowpeas.

During the next year, the process is repeated, but the planting rows are reversed so that the maize can benefit from the improved soil fertility from the fixed nitrogen generated by the cowpeas. Nitrogen is one of three essential elements needed for crop growth (along with phosphorus and potassium). These elements are “mined” from the soil by crops, and cowpeas and other legumes are one of the few natural methods to replace nitrogen in the soil.

According to socio-economist Mamman Kwagyang Saleh, farmers also have much to gain financially by growing two cowpea crops. “At harvest in October, the price of maize is around 16 naira (\$0.11) per kilogram (kg). At its peak in December, the price can reach up to 32 nairas per kg. The price of cowpeas starts at 60 nairas per kg at harvest in December and can reach 135 nairas (\$0.89) per kg at the peak season during July and August,” Saleh explains.

Reverend Sabastiane Canon, pastor of the Anglican Church in the village of Barangwaje, recalls, “In 2008, I was the first to plant maize in Kakuba, a neighboring village. When I moved to Barangwaje, one could tell that the soil here was not good for maize. Our farmers are now applying the new farming techniques combining maize and double cowpeas and the results are visible – the soils are better nourished and the



A Nigerian farmer in Bakula village explains the maize-double cowpea cropping system to visiting farmers.

people live better. I am well placed to testify, because when things go wrong, I am usually the first to know!”

According to Dr. Constant Dangbegnon, scientific coordinator, “Each IP serves as a platform for diagnosing problems, exploring opportunities and investigating solutions in the context of the entire value chain. One of the most interesting outcomes of the project is that farmers get organized and put their means and minds together to solve problems. This is a way of ensuring sustainable progress.”

“The maize-double cowpea system is an intensification practice that optimizes land use and maximizes crop output while increasing farmers’ incomes,” says Dr. Bitrus Tarfa, coordinator of the Maize-Legume IP. “After two years of on-farm trials, this system has been selected as one of the best options to solve problems related to declining soil fertility and improve the livelihoods of smallholder farmers in the NGS agro-ecological zone. Now, we want the local government to contribute by paying for fertilizer transport to lower costs for farmers.”

Rain-Fed Tomatoes and Improved Cropping Techniques Increase Incomes of Nigerian Farmers

Despite the importance of tomatoes in the daily diet of the Nigerian people and increasing demand for this crop, it has not yet reached its production or marketing potential. However, for the past two years, a real revolution has taken place in northern Nigeria, with the development of rain-fed tomato crops combined with intensive and improved management practices. Yields and incomes are increasing, to the delight of tomato producers.

“Tomatoes are usually farmed during the dry season, when the nights are cooler, because of the lower moisture content of the air,” explains Dr. Abdoulaye Mando, leader of the Natural Resource Management Program in IFDC’s North and West Africa Division. “During the rainy season, heat is trapped in moisture and the soil temperature remains high, which most existing tomato varieties cannot tolerate. The introduction of heat-tolerant varieties that can grow during the rainy season is a milestone in the development of the tomato sector because it allows two crops per year.”

“Tomatoes are planted in March and harvested in June-July. By July-August, tomatoes are scarce – dried tomatoes are the main product sold because fresh tomato prices are exorbitant,” said Rilwanu Yahaya, coordinator of the Vegetable IP. “The economic returns from rain-fed tomatoes are truly amazing – a basket (30-35 kg) that sells at harvest for 500 to 1,000 nairas (US \$6.58) can cost 6,000 to 7,000 nairas (US \$46) in August-September! The main issue is to avoid a glut that can bring prices down as low as 200 nairas per basket.”

The Vegetable IP also seeks to increase water and nutrient use efficiency to optimize productivity and increase profits. Water scarcity and poor access to inputs, such as fertilizers and pesticides, are major limiting factors in tomato growth and productivity.

“The drip irrigation system enables a grower to get the most from every gallon of water used on the crop,” Yahaya says. “Water is delivered to the root zone of each plant and not to the entire field as with flood irrigation. The system allows precise, timely and uniform water application, which limits waste. It also saves time and labor because the farmer doesn’t have to constantly water his crop. Moreover, the incidence of foliage diseases is reduced because leaves and stems stay drier.”

Dr. Constant Dangbegnon, the project’s scientific coordinator, says, “UDP is part of the innovation package to maximize yields per unit of land area. Instead of prilled urea being broadcast on the crops, large urea briquettes are placed close to the plant roots to increase nitrogen-use efficiency and limit losses to the atmosphere. Farmers are obtaining yield increases with less fertilizer and less harm to the environment.”



Tomatoes are plentiful with the improved practices introduced by the Vegetable Innovation Platform.

UDP technology, which has been adopted on a large scale in irrigated systems in Bangladesh (see article on page 3), was initially developed to boost rice productivity. With the support of IFDC and the International Fund for Agricultural Development, UDP was recently introduced in seven African countries, including Nigeria.

Nuhu Muhammed Tukur, a farmer in Kudan village, is thrilled with the outcomes of these improved practices. “Before, we were growing tomatoes blindly. With the Vegetable IP, we are involved in testing and selecting the best varieties for our weather and our soils,” Tukur says.

“In 2007, on my 0.25-hectare plot, I grew enough tomatoes to fill 150 baskets, each weighing 80 to 90 kg. In 2008, my tomatoes filled 400 baskets and 450 baskets in 2009. In 2007, only five of the 65 members of our farmers’ group participated in the project; today, 52 are participating.”

For farmer Mahazi Yahaya, the problem is the market. “We have to take the tomatoes 900 kilometers to Lagos! We need markets closer to the farms and a market strategy that reduces the power of the middlemen who control the prices.”

Professor Alphonse Emechebe, a pilot learning site coordinator, stated, “The Vegetable IP has exceeded my expectations. The rainy season tomatoes that help fill in the supply gap, combined with drip irrigation and UDP that help maximize returns, open new income opportunities and the road to prosperity in the area.”



Trainees and instructors at Isbell Farms in Cherokee, Alabama, USA.

IFDC Training and Study Tour Links Agriculture Professionals From Around the World

Participants from 11 countries traveled to IFDC headquarters in Muscle Shoals, Alabama, to learn about the challenges that developing countries and transitioning economies face in marketing fertilizers in liberalized, open and competitive markets. The international training and study tour “Designing and Implementing Agri-Input Marketing Strategies” was held October 4-15.

In the past three years, agricultural input markets have been significantly impacted by global financial markets, food security concerns, cropping pattern changes to meet new and growing markets for biofuels and dietary changes. Training participant Luiz Chiapetta, chairman of Empresa Agrícola Chiapetta [Chiapetta Agriculture Company] in Brazil, indicated that this is the reason he attended the program. “With the rising cost of fertilizers, the training program was the perfect opportunity for me and others involved in agriculture to learn more about fertilizer marketing strategies,” he stated.

Trainees visited agri-input suppliers, dealers and logistics management business operations in Alabama and St. Louis, Missouri, and policymakers and national associations in Washington, D.C. The program focused on the development

of practical techniques and skills necessary for analyzing value chains and developing customer-oriented marketing strategies.

One stop on the study tour was Isbell Farms in Cherokee, Alabama. Isbell Farms is a highly mechanized cotton, corn and soybean farm that operates with minimum- and zero-till crop management. Training participants visited the farm to learn about farm business management and strategic planning.

“The workshop was very informative,” said Mahenye Muya, managing director of Suba Agro-Trading and Engineering Company in Tanzania. “We were able to network to gain knowledge on marketing strategies as well as to envision the future in terms of environmental issues and technologies.”

“The success of the training program was contributed to, not only by the diversity of business entities visited in the program, but importantly by the broad range of occupational and country experiences of the participants who all shared openly of their respective experiences, in a wonderful spirit of learning,” said Paul Makepeace, IFDC senior specialist in marketing, who was one of the instructors for the study tour.

World Food Prize Laureates Recognized at Borlaug Dialogue Symposium

“Take It to the Farmer: Reaching the World’s Smallholders” was the theme of the 2010 Borlaug Dialogue international symposium held in Des Moines, Iowa, USA, October 13-15.

The conference drew more than 1,000 policymakers, industry leaders and other experts from around the globe to discuss issues related to world food production and supply.

The co-recipients of the 2010 World Food Prize, David Beckmann and Jo Luck, both leaders of their non-governmental organizations, were recognized at this event for their landmark achievements in building Bread for the World and Heifer International, respectively. Along with the award, the recipients shared a US \$250,000 cash prize.

Established in 1986 by the late Nobel Laureate Dr. Norman E. Borlaug, the Prize honors outstanding individuals who have made vital contributions to improving the quality, quantity or availability of world food supplies.

Dr. Borlaug served on the IFDC Board of Directors for 10 years and, according to IFDC President and CEO Dr. Amit Roy, “was a key supporter of IFDC’s expansion of activities in the developing world.”

Speakers at the event included Dr. Rajiv Shah, administrator of the U.S. Agency for International Development (USAID); Howard Buffett, president of the Howard G. Buffett Foundation; Jeff Raikes, CEO of the Bill and Melinda Gates Foundation; and U.S. Secretary of Agriculture Tom Vilsack.

Other notables included IFDC Board of Directors member Dr. Vo Tong-Xuan, vice president for academic affairs of Tan Tao University in Vietnam; and IFDC’s Virtual Fertilizer Research Center Board of Advisors members Marco Ferroni, executive director of the Syngenta Foundation for Sustainable Agriculture; Dr. Ruth Oniang’o, founder of the *African Journal of Food, Agriculture, Nutrition and Development (AJFAND)*; and Ajay



Kofi Annan, former UN secretary-general and current chairman of the Alliance for a Green Revolution in Africa, speaks at the 2010 Borlaug Dialogue. Photo courtesy of The World Food Prize.

Vashee, president of the International Federation of Agricultural Producers.

The event also served as a platform for the announcement of the USAID/U.S. Department of Agriculture joint 2011 agricultural research initiative – The Norman Borlaug Commemorative Research Institute – which is part of USAID’s Feed the Future program targeting hunger alleviation and global food security.

In remarks during the event, Secretary Vilsack noted, “We need to be less fearful of sharing our knowledge, our experience and our technology so that others can be self-sufficient,” referring to developed nation agricultural expertise. “When [developing countries] become self-sufficient, then they become capable of trading. And when they become capable of trading, they become capable of developing relationships. And when those relationships are developed, they become capable of becoming friends, and the world becomes a safer and better place for all of us to live.”

IFDC President Speaks to Georgia Tech Students



Dr. Amit Roy, IFDC president and CEO, gave a lecture on “A New Generation of Fertilizers – Necessary and Vital to Feed the World” at the Georgia Institute of Technology School of Chemical and Biomolecular Engineering (ChBE) on October 27.

Roy discussed the history and importance of fertilizer (particularly to Africa) and the research IFDC is conducting to improve the efficiency of key nutrients.

“The global population has been forecast to increase from 6.8 billion in 2010 to about 9.2 billion in 2050. Therefore, food production must double to feed the additional population,” Roy told the students.

The ChBE Fall 2010 Seminar Series featured invited lecturers who are prominent in their respective fields. Roy holds doctorate and master’s degrees in chemical engineering from Georgia Tech.

World Leaders Meet to Discuss MDG Progress

When the United Nations' Millennium Development Goals (MDG) were established in 2000, few could have imagined that over the decade, the globe would be gripped by a spike in natural disasters, skyrocketing oil and commodity prices and an unprecedented world financial crisis. In the wake of these events, many nations have struggled to keep pace with their financial pledges to meet the eight MDGs.

At the September 2010 MDG Summit on the goals, this was a key issue. According to The Associated Press, French leader Nicolas Sarkozy was the first to answer UN Secretary-General Ban Ki-moon's call for additional financial resources to combat global poverty, hunger and death. Sarkozy pledged to boost France's annual contribution of US \$10 billion by 20 percent over the next three years.

Earlier this year, a partnership initiative of the U.S., Canada, South Korea, Spain and the Bill and Melinda Gates Foundation was announced, with pledges of \$813 million dedicated to a global fund for developing world agricultural intensification.

The U.N. welcomes any progress that can be made over the next five years, according to the *New York Times*. However, experts warn that high profile achievements might overshadow the fact that many of the world's poorest nations are not only making little progress but are often losing ground.

But while many countries have fallen short, other nations are making remarkable progress. According to a recent report from the Overseas Development Institute, Ghana had cut hunger rates by 75 percent by 2004. Ethiopia reduced its hunger rate from 60 percent to an unprecedented 16 percent. Both prove that even in the midst of world challenges, committed nations that leverage international assistance can reach the goals.

Representing IFDC was Patrick Murphy, a member of the IFDC Board of Directors, who highlighted the importance of investing in agriculture to achieve the first MDG. His talks with world leaders focused on the central role of fertilizers in improving the lives of millions of farmers through increased yields and incomes.

"Progress toward the goals may seem slow on a global scale," said Dr. Amit Roy, president and CEO of IFDC. "However, we are seeing remarkable progress on a daily basis through our agricultural and economic development programs." Roy cited ongoing successes in alleviating hunger and poverty in Bangladesh, Kyrgyzstan, Rwanda and other African countries.

Dr. Balu Bumb, former IFDC policy economist, added, "Sustainable progress on the MDGs is being made through IFDC's agricultural projects. In Africa, participation from the nations that we serve has been forthcoming and sincere. We have made progress on a policy level as well as in the field."



IFDC Board of Directors member Patrick Murphy (center), who represented IFDC at the MDG Summit, is shown here inspecting a portable thresher being tested in IFDC's East Africa CATALIST project. To his right is Bruce Smith, CATALIST deputy chief of party.

The key to MDG success will be the level of financial commitment from developed and developing nations. The U.N. has called for countries to spend 70 cents of every \$100 generated by national GDP on international aid by the MDG 2015 deadline.

Prior to the summit, an annex to the original resolution was drafted for ratification. The annex before the U.N. General Assembly stated, "We recognize that more attention should be given to Africa, especially those countries most off track... Progress has been made in some African countries, but the situation in others remains a grave concern, not least because the continent is among the hardest hit by the financial and economic crisis."

Article 70 of the document reiterated a world commitment to developing agricultural value chains, increasing agricultural productivity through sustainable technology transfer, supporting research, policy reform and improved access to agricultural inputs and the credit required for their purchase. IFDC programs focus on these same areas.

The U.N. acknowledges that even if the target of reducing extreme poverty by half is achieved in the next five years, nearly one billion people will still be living on less than \$1.25 a day. "This is why it is imperative for us to make as much progress as we can today, with the resources we do have," said Roy. "Because even after we fulfill the MDGs, there will continue to be another billion people who require assistance."

Global Security is the Focus of 2010 World Policy Conference

Dr. Amit Roy Presents IFDC Views on Food Security

The French Institute of International Relations (IFRI), an independent center for global cooperation research and policy development, hosted its third annual World Policy Conference in Marrakesh, Morocco, in late October.

The conference, which focused on global security in its many forms, brought together world leaders and corporate executives to discuss the issue and its global governance. This year's international conference took place prior to the November G20 Summit, in hopes of steering G20 discussions toward actions that aligned with the conference's priorities.

The conference hosted 150 high-level participants who were invited for their expertise and influence in world security. "A consequence of globalization is growing interdependence. Any war – particularly in the Middle East and in West or East Asia – or any new major economic or financial failure would immediately have catastrophic global repercussions," said Thierry de Montbrial, president and founder of IFRI. "The international system as a whole will not realize lasting benefits from globalization unless the major states, in close cooperation with the other major stakeholders, all have the will to ensure the structural stability of the whole system," he added.

Participants included international leaders such as Ban Ki-moon, secretary-general of the United Nations; Jean-Claude Trichet, president of the European Central Bank; Hüseyin Dirioz, chief advisor to the secretary-general of the North Atlantic Treaty Organization; Joaquin Almunia, vice-president of the European Commission; Michael Chertoff, former secretary of the U.S. Department of Homeland Security; Mary Robinson, the first female president of Ireland (1990-97); and Dr. Amit Roy, president and CEO of IFDC.

Chief executives from such noted corporations as Total and Lafarge also were in attendance along with senior officials of corporate giants Microsoft, Dupont, Rusal and Office Chérifien des Phosphates (OCP), among others.

The conference focused on six major areas of global security:

- The mid- and long-term relationships between demographic trends, climate change and public health challenges.
- Global monetary and financial governance.
- The governance of cyberspace, specifically cyber-criminality and digital warfare.
- Concerns over the institutionalization of the G20 and a call to review recent reforms to the United Nations.
- Global multi-polarity, with the views of Brazil, China, India, South Africa and Turkey on linking regional policies and global governance.
- The current general state of international affairs.

Recognizing that food security is as critical as diplomatic, military and financial normalization, the conference held a high-level workshop to spotlight this key issue. "You cannot build peace, or security of any kind, on empty stomachs," stated Roy, echoing the sentiments of the late Dr. Norman Borlaug, the Nobel Laureate who drove the "Green Revolutions" in Latin America and Asia during the 1960s and 1970s.

"It has been well-established that increased agricultural production, particularly in developing countries, raises dietary standards, living conditions and incomes," Roy added. "All of these factors lead to stronger national economies and are directly tied to reductions in civil unrest and regional conflict. In short, food promotes peace."

According to Roy, using an agricultural intensification strategy to ensure national, regional and international security is the most cost-effective governance solution. "Building nations in this way is simply good stewardship of the planet and its peoples." USAID and the government of the Netherlands, like many other nations, have recognized this reality and continue to invest heavily in building nations through agriculture-based development programs.

According to IFRI, the structural stability of the international system requires a greater sense of global solidarity, whether in the form of more sustainable development or through greater responsiveness to unforeseen crises. The new global governance needs to reconcile two, often contradictory, criteria – effectiveness and legitimacy.

De Montbrial concluded that it will take decisive and coordinated action on the part of world policymakers and corporate leaders. But it is a task that can certainly be achieved.



U.N. Secretary-General Ban Ki-moon addresses the opening session of the third World Policy Conference, organized by the French Institute of International Relations, in Marrakesh, Morocco. Photo courtesy of U.N./Eskinder Debebe.



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2011 International Training Calendar

Training Program	Dates	Location	Program Fee (USD)
Decision Support System for Agro-Technology Transfer (DSSAT Version 4.5) – Assessing Crop Production, Nutrient Management, Climatic Risk and Environmental Sustainability with Simulation Models	May 9-19	Muscle Shoals, Alabama, USA	\$1,500
Nitrogen Fertilizer Production Technology, Fertilizer Granulation and NPK Production Alternatives (with IFA)	June 20-24 (dates to be confirmed)	Seville, Spain	\$2,500
Fertilizer Policy and Marketing Strategies in Africa	July 4-8	Nairobi, Kenya	\$1,200
Fertilizer Value Chain – Supply System Management and Servicing Farmers' Needs	August 22-26	Bangkok, Thailand	\$1,500
Phosphate Fertilizer Production Technology (with IFA)	October 17-21 (dates to be confirmed)	Berlin, Germany	\$2,500
Linking Farmers to Markets	November 21-25	Accra, Ghana	\$1,200
Assessing Indigenous Fertilizer Production Opportunities in Africa	December 5-9	Arusha, Tanzania	\$1,200