Creating Solutions for Sustainable Agricultural Development

IFDC overview
The earth’s population is now more than 7 billion and is expected to increase to more than 9.2 billion by 2050. Even now, meeting the rising demand for food is a challenge, particularly in the developing countries of Africa and Asia. And due to population shifts from rural to urban settings as well as dietary changes, feeding the world’s population will only become more difficult. A parallel challenge is not just to grow more food but to grow more nutritious food so that people around the world receive the necessary vitamins, minerals and nutrients for optimum development.

There are about 500 million smallholder farms worldwide; more than 2 billion people depend on them for their livelihoods. These farms produce about 80 percent of the food consumed in Sub-Saharan Africa and Asia. IFDC is committed to alleviating global hunger and poverty; helping millions of these smallholder farmers progress from subsistence to commercial farming will contribute to that effort, and feeding the world will be less daunting.

IFDC was established in 1974 as part of a global effort to help increase agricultural production and economic growth. IFDC helps improve agricultural productivity through the development, improvement and adaptation of environmentally sound, integrated crop nutrient technologies. Improved soil fertility helps address such critical issues as hunger and poverty, environmental sustainability in agriculture and economic development.

Over 800 IFDC staff members work on field and research projects in more than 30 countries, assisting smallholder farmers and others across the agricultural value chain. These dedicated staff members help increase farmers’ access to improved agricultural technologies and practices and to agricultural input/output markets.

Agriculture remains the economic growth engine for Africa and many countries in Latin America and Asia. For nearly 40 years, IFDC has worked to improve food and nutritional security in more than 100 nations – developing countries and those transitioning from centrally planned to market-oriented economies.

Fertilizer is critical for increased agricultural productivity. But rising commodity prices and energy demands mean that the world can no longer rely on current, inefficient fertilizers or energy-wasteful methods of fertilizer production and use. More effective and profitable methods to grow crops must be developed. At the same time, more efficient ways to transfer vital nutrients to crops while also protecting the environment are a priority.

The need to increase agricultural productivity is greatest in Sub-Saharan Africa, where farmers are running out of available land while too often barely producing enough to feed their families. Their markets are unreliable and often unprofitable. At the other extreme is Asia, a beneficiary of the ‘Green Revolution’ of the 1960s-1970s. Now, though, excessive fertilizer use causes pollution, reduces farmers’ profitability and is a financial drain on governments that subsidize these products.

IFDC’s donors and partners are equally committed to alleviating hunger and building sustainable global food security. IFDC donors include development agencies, governments, private enterprises and foundations. In addition, donors finance specific long-term market development projects. IFDC also works with international agricultural research centers, national and non-governmental organizations, private sector entities and public-private partnerships. By sharing and combining resources, these relationships help develop effective agricultural value chains.

Key Accomplishments

In the lab and the field, IFDC is a leader in developing new agricultural products, tools and technologies:

- **Helped refine and accelerate diffusion of Fertilizer Deep Placement (FDP) technology**, which increases crop yields while using less fertilizer and decreases air and water pollution. IFDC projects are working with farmers across Asia and Africa to expand FDP use.

- **Contributed to the development of Integrated Soil Fertility Management (ISFM)** to increase crop yields (as much as two- to four-fold) while protecting the environment. ISFM combines mineral fertilizers and local organic amendments (crop residues, compost and green manure) to replenish lost soil nutrients, improving soil quality and the efficiency of agro-inputs. ISFM also promotes improved crop management practices, measures to control erosion and leaching and improves soil organic matter maintenance. IFDC projects across Africa have been using ISFM for more than 20 years to improve crop yields and soil fertility.

- **Developed Competitive Agricultural Systems and Enterprises (CASE)**, combining ISFM and competitive commodity chains (the path goods travel from farmer to...
consumer). CASE gives farmers the information and tools needed to increase crop yields, links them to markets and enables them to generate revenue through the sale of their surplus produce. CASE is based on agribusiness cluster formation and public-private partnerships that enable agribusiness and improved trade. CASE is being used in multiple IFDC projects across Africa.

- Created and staffs the Virtual Fertilizer Research Center (VFRC), a global initiative to coordinate development of the next generation of fertilizers and production technologies.
- Leads agro-dealer development efforts on three continents. By helping agro-dealers increase their knowledge and professionalism, they can then advise their farmer-customers on best agricultural practices and the effective use of agro-inputs.
- Implements agro-input voucher programs to help smallholder farmers obtain agro-inputs while building business for rural agro-dealers. IFDC recommends vouchers over government subsidies that disrupt/discourage private sector efforts. Vouchers are 'smart subsidies' because they supply agro-inputs to farmers (generally at a lower cost to government) while encouraging the establishment/growth of commercial markets.
- Transfers knowledge/technology to millions of farmers in Africa and Eurasia through farm/field demonstrations and training in agricultural best practices, FDP, ISFM, CASE, etc.
- Developed and maintains www.AfricaFertilizer.org, a global Internet forum to disseminate and exchange information on fertilizers, soil fertility and other critical agricultural issues facing Africa.
- Designs/implements emergency support programs (large-scale delivery of agro-inputs) to achieve improved food security and accelerate farmer income.
- Conducts policy assessments, contributing to reforms that liberalize agro-input markets and generate increased private sector investment.
- Planned/implemented the 2006 Africa Fertilizer Summit, working with the African Union, New Partnership for Africa’s Development, the government of Nigeria, Rockefeller Foundation and others. The Summit generated the Abuja Declaration on Fertilizers for an African Green Revolution.
- Implements international training programs, workshops and study tours. More than 10,000 participants from 150 countries have participated to date.
- Conducts pilot plant tests to improve product and process technologies, incorporate secondary and micronutrients into conventional fertilizers and convert waste materials to fertilizers. Thousands of tests/trials have been conducted in IFDC labs/greenhouses/fields on a range of fertilizer products to quantify or verify performance characteristics and assess product quality.

Critical Challenges:
There are two major challenges to ensure food security and reduce poverty. First, farmers must practice agricultural intensification on existing farmland through the use of high-yielding seeds and improved crop varieties, increased use of fertilizer and better farm and water management. Farmers also must have greater market access. At the same time, limited resources must be conserved, agricultural pollution must be decreased and nutrient and water resources must be used more efficiently.
We face a daunting task – grow more food on less land while adapting to climate change. Simply put, we cannot waste anything, and we must produce more food while using fewer resources.

– Dr. Amit H. Roy
IFDC President and Chief Executive Officer