

The Need for Seed

Agriculture has the capability to tackle a growing world population, climate change, finite land resources and the need for renewable bio-based products. And it all starts with seed.



TOGETHER WITH THE AIR we breathe and the water we drink, crops are one of the most fundamentally important resources for human life on earth. Agriculture touches every aspect of your life, from the food on your table, to the clothes on your back, to the fuel in your car.

But have you considered the vital role agriculture plays in hunger abatement and poverty reduction in the developing world? A growing population needing affordable food in a changing climate demands solutions that crops, and the seeds that produce them, can provide. The seed industry is perfectly poised to drive advancement in the future, as it provides food, feed, fiber and fuel to the world.

Call to Action

The latest World Development Report calls for greater investment in agriculture in emerging economies. Titled “Agriculture for Development”, the report calls for the sector to be placed at the center of the development agenda in order to decrease poverty and hunger.

Agricultural and rural sectors have suffered from neglect and underinvestment over the past 20 years. While 75% of the world’s poor live in rural areas, a mere 4% of official development assistance goes to agriculture. As a result, the World

Breaking Down Barriers

Several barriers to seed trade in developing countries have to be removed in order to facilitate exchange of commercial seed and implement a strategy aimed at achieving seed security.

- Strengthen seed distribution networks and promote establishment of small private companies to be involved in seed production and distribution in remote areas.
- Facilitate international seed trade by simplifying variety registration, making seed certification voluntary, adopting legislation to protect intellectual property, avoiding unreasonable phytosanitary requirements and establishing national seed trade associations.
- Involve extension services and Non-Government Organizations in promotion of commercial seed of modern varieties and utilization of improved agricultural techniques.

Bank Group is advocating a new agriculture for development agenda. According to the WDR, for the poorest people, GDP growth originating in agriculture is about four times more effective in reducing poverty than GDP growth originating in other sectors.

Agriculture offers pathways out of poverty if efforts are made to: increase productivity in the staple foods sector; connect smallholders to rapidly expanding high-value horticulture, poultry, aquaculture, as well as dairy markets; and generate jobs in the rural non-farm economy.

Seed's Role

Improved seeds are a catalyst for overall development. In the developing world about 840 million people are chronically malnourished and the challenge is getting them enough calories. Beneficial knowledge and technology can be packed into seeds that small-scale farmers can afford and learn how to use. For example, genetically modified sweet potatoes resistant to viral plant diseases have been introduced in Africa. Sweet potatoes – a staple crop throughout Africa – can see losses of over 80% due to disease.

In Ghana, where the average corn yield is only one ton per hectare, more than 140,000 small-scale farmers are now producing up to five times more by adopting a technology package of improved seed, fertilizers, no-tillage practices and weed control systems. These farmers obtained corn yields 45% higher than farmers who did not use this technology during normal years and 48% higher in dry years.

Meanwhile, in Mexico, several viruses cause significant yield losses in potatoes so scientists have applied plant science technology to develop virus resistance in these important local varieties. Results indicate the new varieties will provide farmers with a 10-15% yield increase. In India, where thousands of children suffer from diets deficient in vitamin A, local scientists are working with the plant science industry to develop golden mustard that will yield oil higher in beta-carotene, a precursor to vitamin A.

New crops are also allowing farmers in developing countries to garner more income to support their families. A study by the International Service for the Acquisition of Agri-biotech Applications in the Philippines found that while biotech seed corn costs more than conventional seed, farmers earn 34% more planting Bt corn, enough to support a family of five.

There is also an impact on education. Better, healthier crops require less hand weeding and spraying. On many farms, this frees children from working in the fields and gives them time to go to school.

Ultimately, it is about breaking the cycle of subsistence farming. There is no more powerful tool to lift people from poverty than increasing crop productivity so they have enough resources to feed their family, sustain their farm and have grain or vegetables to sell for income.



Need for Green in Africa

In a recent speech, UN Secretary-General Ban Ki-moon urged scaled-up action – including the launching of an African Green Revolution to accelerate economic growth and combat hunger – so the continent can meet its Millennium Development Goals by 2015. "...the dramatic rise in food prices underscores the pressing need to invest in raising agricultural productivity across Africa," he said. "Importantly, the crisis provides us with a critical window of opportunity for improving access to markets and reducing subsidies for agriculture in rich countries... the systems, knowledge and tools are in place to meet ambitious targets in each area, an effort that will save millions of lives and empower African countries to achieve sustained growth."

No other sector drives development more than the seed industry. Due to the diversity of farming systems around the globe, varieties of many crops can be developed that are well adapted to local conditions and meet farmers' needs, ultimately resulting in a better way of life. This is a critical juncture, with a dramatic jump in demand and a finite amount of arable land, so we need to be more innovative, more environmentally sensitive and more sustainable than ever before. **JULIE MCNABB**

Editor's Note: Interested in ways to help? E-mail us at issues@issuesink.com.