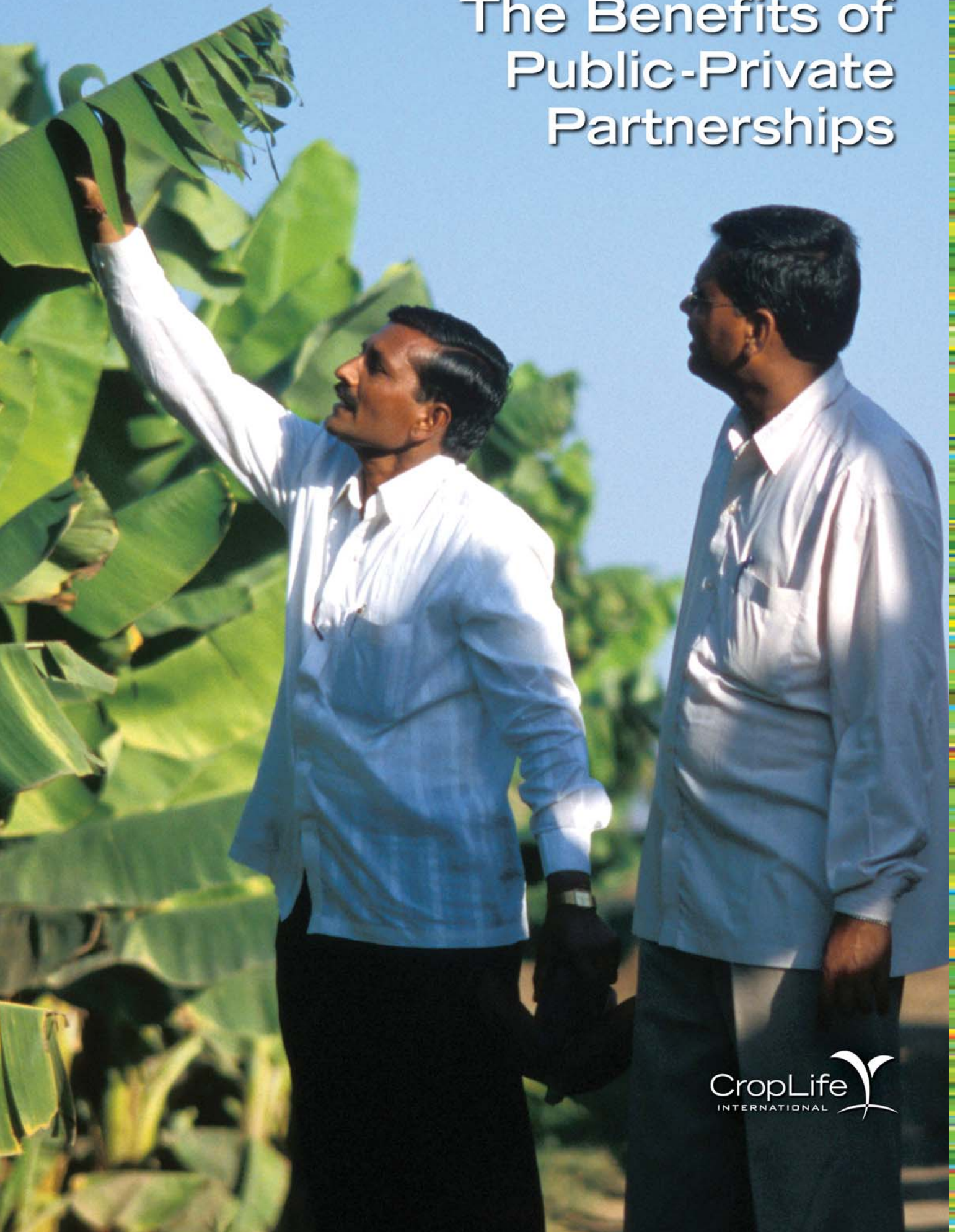


WORKING TOGETHER TO HELP FARMERS

# The Benefits of Public-Private Partnerships





From feeding a population expected to reach nine billion by 2050 to looking after soil, water and natural habitats – our world's farmers face increasing challenges. What's more, they're under greater pressure from the changing climate and a shrinking agricultural workforce. As a result, farmers need innovative tools that improve sustainability more than ever before. Providing farmers access to plant science innovations as well as the knowledge and skills to use them responsibly can make a major impact on their farms.

So how can we make this possible?

One good way is through the partnership of the public and private sectors – working together for mutual growth and benefit. These collaborations enable goals, resources, expertise and risk to be shared, ensuring scientific innovations become valuable tools for farmers.

**Successful public-private partnerships:**

- **Improve the efficiency of developing locally-adapted innovation.**
- **Enable technology to be distributed more effectively to local farmers.**
- **Help farmers continuously improve and make the most of sustainable agricultural practices.**
- **Promote the effective and responsible application of new technologies.**
- **Provide social and economic value to farmers and communities.**

## Working together

Agricultural innovations come from both public and private sector research and almost always involve a lot of time, resources and financial uncertainty. Research priorities for both sectors depend on a complex mix of factors, including benefits to farmers, consumers and the environment, as well as a return on research investment. By working together through public-private partnerships these two sectors can pursue unique or otherwise speculative projects. They can also bring together the necessary experience, knowledge, investment, technologies and resources to address agricultural issues which may have been overlooked by a single-sector programme or approach.

For national governments, public-private partnerships offer an efficient way to bring timely and relevant tools to local farmers, while helping to build agricultural knowledge at a local level. For the private sector, collaboration provides an innovative approach to financial and resource needs, and helps develop potential new markets. As a result greater innovation can be put in the hands of our world's farmers.



In the following pages we outline a number of projects from public-private partnerships involving CropLife International's members: BASF, Bayer CropScience, Dow AgroSciences, DuPont, FMC, Monsanto, Sumitomo and Syngenta. The projects vary but they all share the same core objectives to improve food security, share knowledge and enable farmers to gain greater access to resources.

## Improving food security

**Research partnerships can lead to food security solutions. They can improve local agricultural practices and develop staple crops that are more nutritious, better adapted to local growing conditions or resistant to pests. For example:**

- In Bangladesh and the Philippines, biotech brinjal (eggplant) technology was donated directly to local researchers to give farmers quicker access to improved varieties that are resistant to local pests.
- Researchers in the private sector have teamed up with the University of Bern (Switzerland) to maintain and improve yields of tef, the most important cereal crop in Ethiopia. The project includes sharing crop improvement and laboratory techniques. Without public-private collaboration, it would have been more difficult to gain sufficient research support and focus for this minor crop.
- A multinational team of private and public sector scientists is currently developing biotech bananas in Uganda with increased vitamin A, vitamin E and iron content. Banana is a major food crop in Uganda, so successful research could dramatically improve the diets of millions of people.
- Brazil's public agricultural research corporation, Embrapa, has worked with private sector companies that have supplied genetic information used to develop a herbicide-tolerant biotech soybean that meets local growers' specific needs.
- The BioCassava Plus project is working to improve the nutritional quality of cassava, the primary source of calories for over 250 million people in sub-Saharan Africa. Public and private sector researchers are focusing on enhancing levels of zinc, iron, protein and vitamins. They are also focusing on improving the durability of cassava once it has been harvested – vital, given the poor quality of local storage facilities.
- By sharing agricultural knowledge with the International Maize and Wheat Improvement Centre, the private sector has developed new commercially-available maize varieties that adapt to local conditions, and wheat varieties protected against devastating diseases such as wheat stem rust.
- The Africa Biofortified Sorghum project is a public-private consortium that relies on technology, capacity building and research knowledge from the private sector. It is developing a more nutritious and easily digestible sorghum that contains increased levels of amino acids, vitamins, iron and zinc. This could improve the health of 300 million people by increasing the nutritional quality of this important dietary staple.





## Sharing knowledge

**Collaborative projects that share practical agricultural information and best practices between the public and private sector and farmer organisations can help improve farming around the world. For example:**

- Private companies have been involved in the South African Developing Agriculture Project, which works with local farmer organisations to increase and safeguard crop yields by changing agricultural management practices for the better.
- Several partnerships between non-governmental organisations (NGOs) have focused on integrated pest management training and the responsible use of plant science products in Latin America, Southeast Asia and Africa. Other projects have included educating academia, public and private researchers and government agencies on how to comply with guidelines for regulated field trials, import permits, incident management, product launch and Excellence Through Stewardship® practices.
- Co-convened by the International Centre for Tropical Agriculture (CIAT) and the International Food Policy Research Institute (IFPRI), the HarvestPlus Challenge Programme works with more than 200 agricultural and nutrition scientists around the world, including private sector developers. CIAT is currently biofortifying the seven key staple crops that will have the greatest impact in alleviating micronutrient malnutrition in Asia and Africa – beans, cassava, maize, pearl millet, rice, sweet potato and wheat. This partnership directly combines expertise across borders, resulting in economies of scale and faster adaptation.
- In Japan, private companies are cooperating with local government, agricultural associations and universities to improve the productivity and profitability of vegetable farms through new technologies. The project includes establishing the crop varieties and crop protection tools ideal for year-round cultivation of leafy vegetables.
- The Tissue Culture Banana Project brought together Africa Harvest and the private sector to introduce tissue culture banana production methods to farmers in Kenya. Farmers were also given extensive training on agronomy and best practices for small farm-based businesses. The introduction of both technology and training has reduced plant diseases and increased productivity in bananas, an important food security crop in Kenya.
- In Bangladesh, farmers' wives influence the purchase of agricultural products and farming decisions. A community project has focused on placing female crop advisors ("farmers' sisters") in contact with farmers' wives. These advisors support farming meetings, meet with retailers and recommend farming solutions to other women in the community. Programmes like these support the women in the farming community, provide agricultural education and knowledge, and help increase farm productivity and profitability.





## Gaining greater access to resources

**Shared projects between government agencies and the private sector can help farmers gain greater access to fundamental resources so they can manage their production process more reliably, at less cost and with greater certainty. For example:**

- The not-for-profit African Agricultural Technology Fund (AATF) facilitates and promotes public-private partnerships that enable resource-poor smallholder farmers in sub-Saharan Africa to access proprietary agricultural technologies. The AATF leads the Water Efficient Maize for Africa (WEMA) project – a public-private partnership to develop royalty-free drought-tolerant African maize using conventional breeding, marker-assisted breeding and biotechnology.
- In India, private companies have worked with local leaders and banks supported by the National Bank for Agriculture and Rural Development (NABARD) to help farmers gain financial independence with the help of a low-cost credit system. Thanks to the development of this transparent, reliable credit and distribution system, farmers have access to affordable, high-yielding maize hybrids, farm inputs and specialist knowledge.
- The Frijol Nica project in Nicaragua provides integrated product bundles of agricultural inputs to farmers with four to five months of credit, backed by a cooperative and financed by a local distributor. With improved access to inputs, farmers can increase the amount and quality of crops they grow and, in turn, their incomes.
- The International Potato Centre has developed a long-term strategy to work with the U.S. Agency for International Development (USAID) and the private sector to increase business investments throughout the seed potato value chain. This can help increase the availability of high-quality seed potatoes, promote improved seed management and improve potato productivity in Ethiopia, Kenya, Rwanda, Tanzania and Uganda.
- The Qori Chacra programme in Peru has trained farmers so they can meet the rigorous quality protocols for local restaurants and businesses. By creating a continuous local market for their products, farmers have been able to improve their standard of living as well as adopt new farming methods, build greenhouses and field trial new crop varieties.
- Over the next decade, the International Potato Centre's Sweet potato Action for Security and Health in Africa (SASHA) project could improve the lives of 10 million sub-Saharan households. It is focusing on improving the quality and range of available sweet potato varieties, including a weevil-resistant variety, as well as developing sustainable seed systems. The project connects research and development to make it easier to access and distribute better varieties of this important crop for the region.
- Knowledge-sharing and lifelong learning in public institutions is important all over the world, including developed countries such as the United States. It is being supported through private collaborations, for example through funding endowed chairs at universities and sharing private expertise and plant breeding excellence to develop new plant varieties suited to local and global markets.
- Public research institutes in Australia, China, Israel and Japan are working with private industry on rapid gene sequencing models and modern breeding techniques to make important agricultural tools available to farmers sooner.





## Building successful partnerships

**The public and private sectors often play different research and commercialisation roles and possess a broad range of complementary abilities, resources and expertise. To combine these elements into a successful project, partners need to consider a variety of factors. For example:**

- The public and private sectors must each voluntarily participate in the collaborative project for mutual growth and mutual benefit – there must be a benefit for all partners.
- Each collaborative effort is a unique partnership with its own set of mutually agreeable terms and objectives, roles and responsibilities, and shared capacity-building and resources.
- Partners must recognise, acknowledge and accept what each sector can offer – from resources to talent, relationships or knowledge. Public-private partnerships are inherently about working towards a common goal that can be accomplished more efficiently and effectively through partnership.
- Public-private partnerships rely on a spirit of openness and transparency – including clear lines of communication and respecting and being receptive to different solutions and ideas. Most importantly, there is no one-size-fits-all approach to successful partnerships.
- Creating the right environment for partnerships will often require collectively addressing regulatory and legislative frameworks – including intellectual property rights and product and technology diffusion – to turn new ideas into innovative products for farmers.





## The increasing importance of public-private partnerships

The pressures and demands on public institutions continue to increase – as do the costs of research and development. It is therefore critical that the public and private sectors continue, if not accelerate, their efforts to work together to meet the challenges facing our world's farmers. The need to innovate for mutual growth and mutual benefit has never been greater.

To meet the challenges, we need to increase public and private funding of agricultural research and increase the impact of this funding through deeper and broader collaborations between the public and private sectors and research communities. Equally important, scientific capacity, regulatory frameworks, social and research infrastructures, and effective legal frameworks and institutions need to enable collaborative projects and support the introduction of technology.

To ensure food security we need to continuously improve the tools and techniques available to farmers working in diverse ways and environments around the world. This involves not only developing new technologies, but also adapting and applying these innovations to local needs and conditions. It also involves ensuring they can be used effectively by skilled and well-informed farmers. Neither the private nor the public sector can achieve these aims on its own. But together they can combine and maximise the impact of their individual experiences and resources where it matters most – at the local level with our farmers around the world.

If you would like more information on public-private partnerships or any of the projects that CropLife International's members are engaged in, contact CropLife International at [croplife@croplife.org](mailto:croplife@croplife.org).



## About CropLife International

CropLife International is the global federation representing the plant science industry. It supports a network of regional and national associations in 91 countries, and is led by companies such as BASF, Bayer CropScience, Dow AgroSciences, DuPont, FMC, Monsanto, Sumitomo and Syngenta. CropLife International promotes the benefits of crop protection and biotechnology products, their importance to sustainable agriculture and food production, and their responsible use through stewardship activities.

For more information, visit [www.croplife.org](http://www.croplife.org) or [www.ActionForAg.org](http://www.ActionForAg.org).



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