The Power of Partnerships: A Private-Sector Perspective

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The world food crisis, exacerbated by accelerating climate change and the global financial crisis, requires that agricultural scientists solve ever more complex problems. Public–private partnerships will play a more critical role in developing agricultural technologies for developing nations to improve farm productivity and alleviate global hunger. In order to make public–private partnerships work, we must move from the 'sector mentality' and focus on combinatorial solutions resolving the most pressing issues. Critical observations from past and current efforts are helpful in designing new relationships and approaches towards driving innovation. Aggressively supporting the development of mutually-beneficial partnerships with a novel mindset will ensure that we fully exploit the tremendous potential that modern technologies promise.

The power of partnerships

The phrase 'Power of Partnerships' itself is widely used. A Google™ or Wikipedia search on the phrase will return hundreds, if not thousands, of entries where the concept is used to address issues in every imaginable industry and situation.

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A few common threads run through many of the search results, regardless of industry. Key words and phrases such as 'creativity,' 'leadership,' 'effectiveness,' 'addressing challenges,' 'successful,' 'innovative' and others are used to describe partnerships that have accomplished their goals.

It is well known and has been well publicised through the media and scientific conferences that the world is facing significant agricultural production challenges today and into the coming decades. These global food security challenges are becoming more complex and interconnected. The uncertainties of climate change, political unrest and the global financial crisis also have a significant impact on our ability to improve agricultural productivity.

Global food security challenges cannot be solved by any one company, government, university or research organisation. Individually, we do not have the resources, global access or talent needed to address the uncertainties of issues like the impact of climate change on crops or improving agricultural productivity during times of financial or political unrest.

As scientists, we have a moral imperative to develop sustainable and innovative solutions to ensure food security for a growing world population.

The true 'power of partnerships' for agricultural productivity today is to understand and embrace the fact that public–private partnerships are critical to global food security; key to delivering needed agricultural productivity increases amid complex global issues, and effective only if well designed and executed.

The final point — designing and executing effective partnerships — is an area that is often overlooked, but arguably of greatest importance to success. The remainder of this paper will focus on this topic.

Building effective and successful partnerships

Successful partnerships create clear accountability. They fully capture the strengths of each partner, have clear goals, inputs and timelines in place, and offer distinct benefits to all parties to ensure the sustainability of the effort.

A company like DuPont is motivated to enter a partnership when it provides the opportunity to form — with the right partners, structure and goals — a collaboration that can accomplish something the company doesn't feel it can do alone.

Effective partnerships are built by following a handful of key principles.

- Partnerships must be designed to capture the strengths of each partner. This requires moving away from a 'sector mentality' and focusing on collaborative solutions to meet the most pressing challenges. A partner's strengths can include technical capabilities, global reach, local connections or a variety of other attributes.
- Partnerships are most successful when they are specifically designed to the scope of the challenge.
- Without effective regulatory and intellectual property infrastructure around the globe, the new technologies that are essential to improving productivity cannot be introduced. And, education and training programs must be in place to deliver the next generation of plant breeders with necessary skills. This training gap is a global issue. The challenges ahead can be met only if scientists are deployed on the ground around the world. That requires trained plant breeders in every corner of the globe.

Capture strengths of each partner

The concept of sector mentality refers to anything that pigeonholes a person or organisation into responsibilities based on old stereotypes or outdated expectations. It is essential to break down silos and barriers and focus on what players are needed to accomplish a specific goal.

In many cases, this sector mentality dooms a partnership before it is even started. The simplified and fictitious example in Figure 1 shows how easy it is for private companies, academics, governments and research institutions to be working on similar projects to enhance productivity for a crop. In each case, they are investing time and resources toward a positive goal.

Each sector brings strengths, such as significant research and development investment capabilities from a private company, as well as limitations, such as a single-country focus for a government. Across the board, however, they miss tremendous opportunities to pool resources and work toward a common goal.

Figure 2 provides another look at the same example, this time removing the silos and barriers between each entity. In this version, the partnership is designed to maximise the strengths and resources of each player and has a much farther reaching and more beneficial impact.

By combining resources, these organisations can take an idea or intention, move it to innovation, to deployment and finally deliver impact.

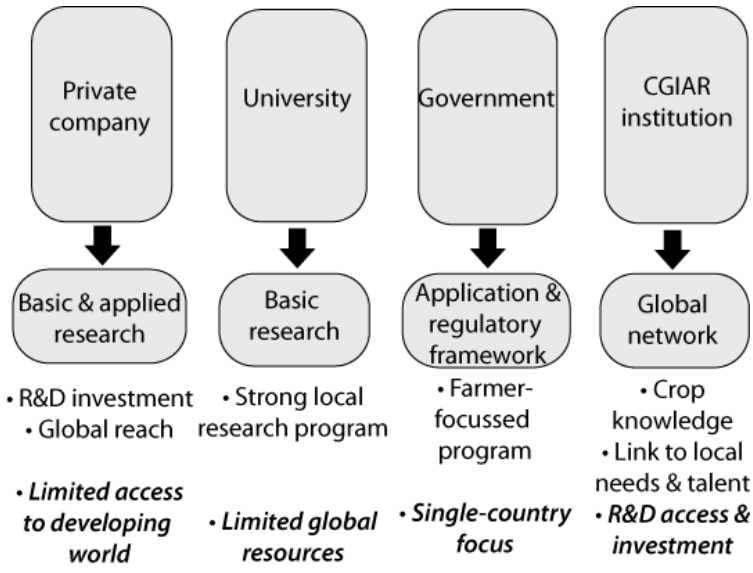

Figure 1. In isolation, institutions forego benefits of complementarity

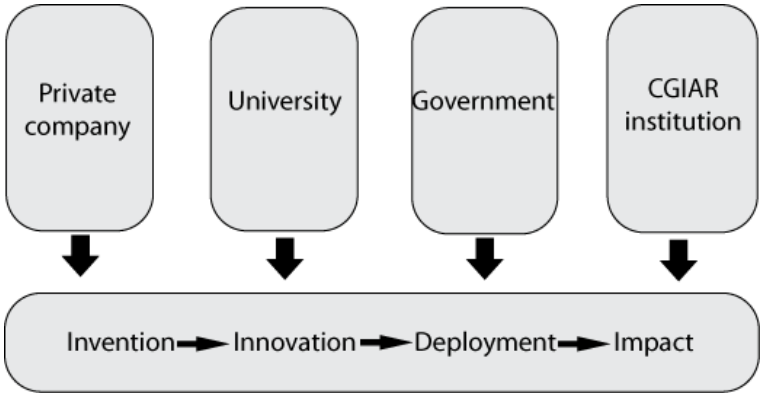

Figure 2. Progress is maximised in a cooperative environment

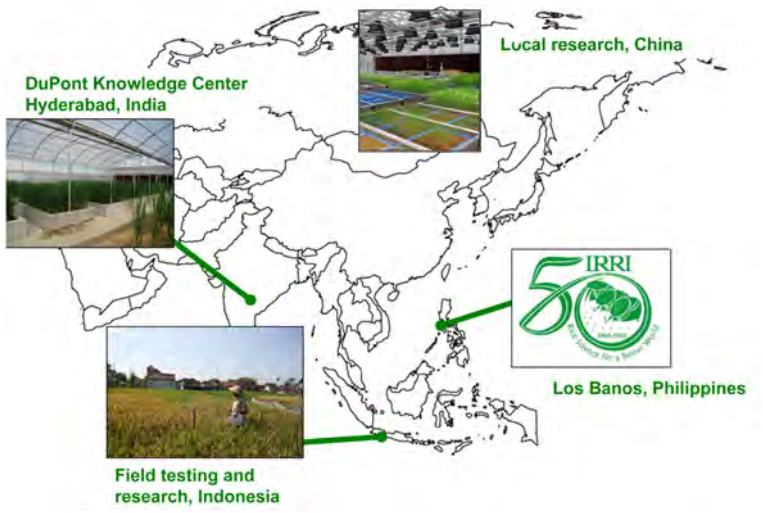

Figure 3. The DuPont–IRRI Scientific Know-how Exchange Program

It is important to note that these organisations should not strive to replace or take over the roles of the other. Each has a very important role with unmatched strengths.

A real-world example to illustrate the concept of capturing the strengths of all partners is the DuPont and International Rice Research Institute (IRRI) partnership to boost rice yields (Fig. 3). The Scientific Know-How and Exchange Program (SKEP) establishes a new model for public–private sector collaboration that can benefit rice researchers, farmers and consumers while stimulating commercial innovation. The research will be conducted on the ground in rice-growing areas such as Indonesia, in world-class research facilities in India, and at IRRI and DuPont locations in the Philippines and across Asia.

The goal of the collaboration is to increase the rate of yield gains and to boost the quality and diversity of hybrid rice. Collaborating scientists will further develop the understanding of hybrid vigour in rice and will work to develop hybrids with better resistance to brown planthopper, a key insect pest. Aspects of this work will be shared publicly and will contribute to making better advanced breeding lines and hybrids available to rice breeders and farmers in Asia. The project will complement the IRRI-led Hybrid Rice Research and Development Consortium.

This project is a great example of a partnership between world-class research organisations using local infrastructure in rice-growing locations to deliver technologies in regions where they are most needed.

Design partnership for success

Once a group of partners with complementary strengths and resources is identified, the next step is designing the partnership for success. Partnerships are most successful when designed with clear accountability and specific to the scope of the challenge.

Key aspects of a successful partnership are:

- **Profit** is often viewed as a four-letter word, especially when it is used in the same sentence as private sector. However, every partnership must be rooted in mutual growth and mutual benefit. The ultimate goal is to improve productivity and food security, but neither the private nor public sectors can do anything if the bills aren't paid first. Private companies may have desire to take on every challenge and philanthropic effort, but ultimately must deliver a return to their shareholders. That drives a company to only take on partnerships that are within its business focus and can be effectively carried out. Non-profits and research centers must also look for the benefits in a partnership. Profit may not be financial, but could also include access to top talent, new alliances or access to germplasm or other resources.

- Partners should **focus** clearly on the goals of the partnership and not allow 'mission creep' or the addition of extra tasks and activities that may detract from the primary goal.
- Each party must be committed to **transparency**, including open lines of communication and respectful working relationships.
- The word '**velocity**' describes the speed of working together on a project. If a project is the top priority for one partner and at the bottom of the to-do list for another partner, there will be serious problems in working together. All parties need to be on aligned on rate of progress.
- Prepare for the **time** commitment involved. This time commitment for partnerships goes beyond lab or field work. Effective partnerships commit appropriate levels of time and resources for planning, update meetings, communications and the like.
- Finally, the most successful partnerships happen when all the partners check their egos at the door. A little **humility** goes a long way.

The African Biofortified Sorghum Project is another example of a real-world partnership (Fig. 4). Part of the Bill and Melinda Gates Foundation Grand Challenges in Global Health program, this is an excellent example of how technology developed in the private sector would have sat unused on a shelf without a public–private partnership to put it to use.

This project primarily aims to develop a more nutritious sorghum that contains increased levels of Vitamin A, and more available iron and zinc. Pioneer scientists had developed technology for corn that could also boost the nutritional value of sorghum, but the potential African market size didn't support the technology and regulatory investment necessary. The Gates Foundation program and African Biofortified Sorghum (ABS) consortium provides the opportunity to bring technology to real life.

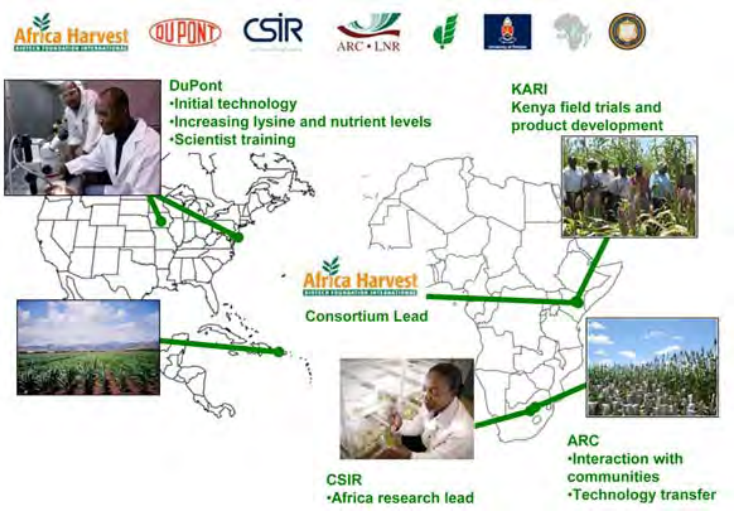

Figure 4. The African Biofortified Sorghum Project Consortium

The project includes 11 world-class research institutes or organisations and is led by the Africa Harvest Biotech Foundation. Now in its fourth year, the project is making excellent progress and is overcoming regulatory hurdles. A project of this magnitude with partners on multiple continents requires significant commitment in order to stay on track with regulatory and research timelines.

Conclusion

Partnerships between private companies and the public sector are the preferred mechanism to address many of the food security and agricultural productivity challenges in the world today. Each day, our world becomes more interconnected and the challenges we face become more complex. The optimal way to effectively address these issues and truly deliver global food security is through well-designed and executed public–private partnerships.