Study details essential role of trust in agricultural biotech partnerships

November 1 2012

Trust between partners is a fundamental requisite in agricultural biotech projects, according to Canadian researchers who today published insights from a four year study into what built or undermined trust in eight African case studies.

In a special supplement published in the UK-based journal *Agriculture and* Food Security, the research team from the Sandra Rotman Centre at the University Health Network and the University of Toronto, concluded trust within such projects has six key determinants: honesty, transparency, capability, accountability, solidarity and generosity.

The body of work examines in unprecedented depth the issue of trust in agricultural biotechnology, capturing important conclusions from 80+ interviews with stakeholders in eight African agbiotech projects spanning seven countries—Burkina Faso, Egypt, Kenya, Nigeria, South Africa, Tanzania and Uganda. None of the study team members was involved in the work of the projects.

"Our interviewees agreed that trust is a very important, if not the most important, factor in the success or failure of an agbiotech public-private partnership," said lead researcher Obidimma Ezezika of the Sandra Rotman Centre. "Trust in these partnerships is especially hard to reach, however, because of the controversy around genetically modified crops, huge distrust of private sector seed companies in this space, and the complexity of the research and development," he added.

"We found that trust in the agbiotech context is defined as one's expectation that the performance and behaviour of another will be supported by tangible results, facilitated by competency and transparency, grounded in a shared vision and guided by integrity."

This definition is important, Dr. Ezezika said, because it provides a checklist to assess the general level of trust within an agbiotech PPP and can be used to tailor regulations, standards and practices that facilitate trust in these partnerships.

Among overarching conclusions, the researchers found trust more difficult to establish around developing new crops for human consumption—insect-resistance maize, for example—than with projects focused on non-food crops, such as an improved cotton plant.

According to the study, funded by the Bill and Melinda Gates Foundation, the difficulties of building trust in agbiotech PPPs come in various forms.

"Not only do the public and private sectors hold mutually negative perceptions of each other, but public and private partners involved in agbiotech initiatives must deal with a public that is wary of the perceived risks of genetically modified (GM) crops and suspicious about private sector involvement in their country," the researcher said.

Honesty, integrity the foremost foundations of trust

The study found integrity to be the element cited most often as the crucial determinant of overall levels of trust in an agbiotech partnership.

An executive of a major private seed company in South Africa's biotech maize industry, for example, said being honest with farmers about agbiotech crops and what they can deliver is essential.

"If you over-promise it will come across as if you are trying to fool the people and it will come back to you," he said.

Other interviewees said trust requires confidence in the good intentions of their partners.

"I would want to have trust that whatever we are doing is safe, that you are not coming to do things that are not right in the country," said one Kenyan participant in the Insect Resistant Maize for Africa project.

Open communication and full disclosure

For many interviewees, the need for transparency is crucial to a trusting relationship.

"If you get bad results, you will still report them," said an executive with the Programme for Biosafety Systems. "Communicate freely," he emphasized.

A member of Kenya Agricultural Research Institute (KARI) said that in a trusting relationship there are no secret motives, no hidden agendas and everything is on the table.

Added a researcher at the Institut de l'Environnement et de Recherche Agricoles (INERA): "This is our philosophy: tell the farmer what we are doing, why we are doing it, and the way we are doing it."

Multilingual community education workshops were found to be helpful to advancing several of the projects studied when it came to breaking barriers in communication.

In Burkina Faso, on the other hand, a significant challenge arose when researchers failed to communicate with journalists—a key conduit for

information reaching the public.

"Instead of sharing information about the technology, researchers were referring journalists up the bureaucratic ladder. Such disconnect between researchers' knowledge of the technology and the uninformed community fostered public distrust in the technology and the research and development process. This posed a significant challenge to the projects' further outreach efforts to appeasing a skeptical and apprehensive public."

Deliver the results expected

A top priority on the trust checklist was accountability for promises and results. This imperative was summed up by a South African biotech maize farmer as a three-part process: saying something, meaning it and then actually doing it. In short, successful delivery on promises builds trust.

An executive of Tanzania's Agricultural Innovation Research Foundation agreed, saying that trust will develop when partners are "accountable in channeling resources in areas that have been agreed," and when every participant delivers the outputs that have been agreed from the beginning.

Some stakeholders cited slow regulatory processes as barriers to building trust, as the private sector had difficulties anticipating the needs of the regulatory bodies and understanding the regulatory processes within the public domain that their applications underwent.

The need for competence

A very important element of trust identified by many interviewees is

confidence in the partners' capacity to perform their assigned roles effectively.

"Someone may be sincere but he may not be reliable because he does not have the capacity," said a partner of the Network for the Genetic Improvement of Cowpea for Africa.

An interviewee involved in the biotech potato project in South Africa said that trust depends on "knowing that that person has the necessary knowledge and expertise to perform [assigned tasks] correctly" while an executive of Monsanto in Africa stated: "When institutions come together, it is about 'do I trust your ability to function, to be capable, and to help meet the common goals that are bringing us together.'"

This does not exclude promoting good agronomic practices, which involves distancing GM and non-GM crops physically and temporally and planting refuge areas in order to prevent insect resistance to transgenic crops, the researchers noted. "However, these practices are not always implemented and monitored correctly, as learned from the Bacillus thuringiensis (Bt) maize project in South Africa."

A shared vision and mutual interests

The idea of a shared vision and goals was also frequently cited by study participants as an important element in the trust matrix. Said one member of KARI: trust blossoms when partners share a vision and work together to achieve it.

Detailed agreements and clearly-defined roles and responsibilities helpfully dispelled perceptions of inequality among partners in certain situations, the researcher noted.

Meanwhile, engaging the public and the project partners through 'farm

walks' was found to be an effective trust-building practice. Farm walks consist of hosting media representatives, farmers, politicians and other members of the community to allow them to explore the in–field activities and see the crops firsthand. They were reported as particularly effective in facilitating opportunities for participants to directly compare the performance of conventional vs. biotech crops.

For a few interviewees, building trust was assisted by the provision of humanitarian services or doing good work on behalf of a target community—it demonstrates that "you are credible and you are working for the interests of the public."

Balancing technology's benefits and risks

In an introductory commentary, Calestous Juma, Professor and Director of the Science, Technology and Globalization Project at Harvard Kennedy School, says discussions of biotech crops fall within a broad interest among African countries in putting science and technology at the centre of development strategies.

"It is widely held that long-term strategies to boost African agriculture will have to include the application of biotechnology," he says. "The collection of papers in this special issue sheds light on why establishing trust among business, government, research institutions and the public is central to efforts to introduce agricultural biotechnology."

The new work builds on an earlier article published in *Nature Biotechnology* from the same team, entitled "Factors influencing agbiotech adoption and development in sub-Saharan Africa."

Concludes Prof. Abdallah Daar, co-author and Senior Scientist at the Sandra Rotman Centre: "We have found that trust must be placed at the forefront of agricultural biotechnology public-private partnerships, and it

must be deliberately pursued. Extensive interviews and case studies underscore the importance of transparency, clear communication among partners, and engaging the public. The lessons from this study have potential significance worldwide not just for biotechnology researchers involved in agriculture but other fields as well. Public-private partnerships are the engines of innovation, and trust is the oil that keeps the parts working smoothly together."

More information: The research in full (10 files), published Nov. 1 in the UK-based journal *Agriculture and Food Security*, is also available for download at bit.ly/XyDSL3

Provided by Sandra Rotman Centre for Global Health