

New leadership for new science

Controversies surrounding biotechnology have led to the emergence of a new kind of leader from the scientific and research communities, writes Joel I. Cohen of the International Food Policy Research Institute. These individuals are working in the policy arena to ensure that scientific innovations are safe and the regulations governing them serve poor people.



By tackling a host of issues surrounding biotechnology research—contentious debate, multiple stakeholder perspectives, conflicting claims to expertise in biosafety and intellectual property—a new band of scientist-leaders is helping to inform debate, bridge political divides, facilitate dialogue with stakeholders, and promote consensus. This leadership requires a willingness to be conversant with the international standards, protocols, and regulatory procedures that are essential for ensuring safe use of biotechnology. Nationally, it requires contending with the complexities of prioritizing budgets for new science among competing national and local needs. By helping to create a learning environment in which problems can be defined and solutions offered, these scientists enable both developing and developed countries to tackle seemingly intractable problems related to the future of food and agriculture.

Complex interplay

As in my own case, some of these scientist-leaders are helping to define how agricultural biotechnology research, strategies, policies, and regulation can serve poor people. This work recognizes that while agricultural biotechnology, especially that involving genetic modification or bioengineering, begins with sophisticated scientific approaches, it soon includes some of the most complex sociopolitical questions surrounding new technologies.

Any project that deals with biotechnology inevitably confronts these questions. The World Bank's programs on biotechnology research, regulatory development, and capacity building—some of them supported through the Project on Biosafety Implementation coordinated by the United Nations Environment Programme and the Global Environment Facility—are a case in point. These programs rely on technical expertise and address the complex interplay of science, policy, and biosafety regulatory requirements.

For World Bank projects, sociopolitical issues can arise when addressing the questions, “Who benefits from this technology, and how do we ensure a pro-poor agenda?” Similar considerations arise when establishing a regulatory system: it must first ensure safety but during final decisionmaking, may also take socioeconomic concerns into account. The Bank's programs and complementary training efforts can help instill individual capacity and confidence in the policy arena, which in turn modernize institutions and organizations and enable them to take on the challenges of biotechnology.

Working collaboratively

The new type of scientist-leader is comfortable working collaboratively with stakeholders at many different levels, enabling scientists and other national decisionmakers and communities to face hard problems together. These leaders require skills that help communities focus on the tough questions and deliberate on critical safety and technology issues. Without this bottom-up style of leadership, countries will lack the sound, scientific information and community-based mechanisms needed to tackle biotechnology's complex problems.

When those in authority tap scientists, the request for help comes with a sense of urgency. Countries seeking to use biotechnology to overcome productivity constraints or to boost income face pressing political and technological questions at the global as well as local levels. Countries have to deal with biosafety negotiations, protocols, and trade effects internationally. These outcomes then have to be transmitted and discussed with national stakeholders such as civil society broadly, including nongovernmental organizations, and communicated for policy action.

While many answers are technical—meaning that they can be addressed through science, experimentation, and readily available technologies—they often require adaptive work at the political, scientific, and beneficiary levels. Scientists need to help integrate biotechnology, biosafety, and access

issues to ensure that technologies meet local needs. When addressing such issues, organizations lack ready responses, expertise, or established procedures. Even the problems can be difficult to define. It is here that adaptive leadership is so important. Many scientists are taking up this leadership challenge.

No community left behind

A number of the complex or adaptive problems related to biotechnology carry over to modern health and nutritional interventions and to information and communication strategies. No one wants communities to be left behind by the information or the health-care revolution, particularly in the case of new medicines, vaccines, and e-based communication. Individuals who are willing to take on these complex challenges and bring about pro-poor change through new leadership instill hope that such gaps will be minimized and no one will be left behind.

This new leadership is not always synonymous with authority. Those with public or national authority rely more and more on scientists and other stakeholders in considering how best to make new biotechnologies part of their country's agricultural research agenda while providing advice about policy options and directions. Doing so means not turning away from complex problems. But because science evolves faster than institutional capacity, international support is needed to help developing countries keep up scientifically and equip leaders with the skills to confront and manage controversy, pursue adaptive solutions, and foster a learning approach for all stakeholders.

Working to develop the skills of scientist-leaders is the basis of my own work in biotechnology, biosafety, and its related concerns. Such work is meant to put a new cadre of leaders in place and to ensure that scientific innovations and their regulation serve those most in need. 🌐

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