

Pocket K No. 33

Communicating Crop Biotechnology

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Crop biotechnology, while merely one of the many possible scientific options to improve agricultural productivity, has triggered increased interest in its consistent and substantial benefits. About 17 million farmers in 26 countries have planted biotech crops spread across 191.7 million hectares in 2018 (ISAAA, 2018). At the same time, it has sparked debate on its perceived risks and safety and is often caught in a maelstrom of controversy. Diverse issues such as scientific, political, economic, ethical, cultural, and even religious viewpoints are being espoused by different stakeholders. A focus on societal and ethical implications has made it a recurring and contentious public policy issue.

Crucial therefore to balancing issues and concerns surrounding biotechnology is adequate science-based, authoritative information to enable various stakeholders to engage in an objective and transparent debate. Mutual understanding and dialogue will enable the global community to understand the attributes of crop biotechnology and assure acceptable by the public.

To improve the understanding of biotechnology and how its products contribute to personal well-being, a strategic plan for public communications is important. Traynor et al. (2007) identify some specific objectives for public communication: make evident to decision makers that modern biotechnology can be an effective tool for increasing agricultural productivity, and thereby economic growth, without imposing unacceptable risk to the environment or human and animal health; and enable members of the public to make informed decisions about appropriate uses of biotechnology by providing accurate information about benefits, risks and impacts.

Why is communication important?

Communication is one of several key variables needed to create an enabling environment for biotechnology. Efforts to encourage stakeholders to participate in evidence-based discussions are needed. These will allow decisions to be made and to build consensus regarding the acceptance and adoption of technology. The public involvement process is then able to introduce issues beyond the boundaries of science such as socio-cultural, political, and ethical concerns (Navarro et al., 2013).

Hence, there is a need for a multi-stakeholder process or dialogue to ensure public acceptance for crop biotechnology and in evolving enabling policies. A process of deliberation is expected between and among stakeholders to converge diverse ideas. The participation of various stakeholders in knowledge generation and validation assures responsible use of the technology and guarantees people of having a choice or say in its adoption.

Saner (2007) enumerates reasons why we need to involve the public, among which include: potentially improve public policy, a more informed and engaged public, more solid support for regulatory decisions, and greater public confidence in government. Communication therefore include these activities: inform or educate to help understand a policy or program; gather information to anticipate communication challenges; facilitate discussion among stakeholders; engage citizens for shared agenda setting and generate options; as well as partnering or reaching agreement among stakeholders.

What are the steps in implementing communication activities?

There are five important steps in implementing communicating activities. The process is cyclical, as it involves a continuous flow of reassessment and refinement. Versoza (2003) enumerates these steps as:

- **Assessment.** This stage involves obtaining information to guide the communication strategy. It identifies the behaviors desired, key messages, audiences or stakeholders to reach, the communication channels to reach the audience, and specific units to implement communication activities.
- **Planning.** A clear course of action is determined on the basis of the assessment earlier conducted. Decisions are made with regards to desired behaviors, key messages, audiences, communication channels, and activities including supporting elements such as budget, timeline, communication research plan, and a capacity building component.
- **Material development and pretesting.** Production of communication materials entails working with the audience to develop messages that will be effective with them. Hence, messages must be clear and easy to understand, and culturally sensitive.
- **Implementation.** The delivery and distribution of communication materials whether through print, radio or television, or through interpersonal communication depends not only on quality and timeliness, but also on availability of good supporting services.
- **Monitoring and evaluation.** These are carried out simultaneously with implementation to determine audience response to messages, and subsequent changes in knowledge, attitudes, beliefs and practices. This process enables mid-course corrections and identifies new opportunities to improve the communication component. The final evaluation enables learnings to be used for future communication programs.

What communication activities can be implemented to increase greater awareness and understanding of biotechnology?

Biotech communication strategies must be linked with each country's cultural and political climate. Public support or consumer acceptance for biotech is crucial for deriving any benefits

associated with the technology. It is driven by a number of interrelated factors: knowledge level, awareness of benefits, confidence, and trust.

A strategic and complementary combination of interpersonal communication and different mass media modalities is recommended. Interpersonal communication is needed to achieve acceptance and use of technology while mass media help promote awareness, knowledge and understanding. The choice of and combination of communication strategies is determined by specific information requirements and needs.

Personal interfaces allow people to interact in close proximity, use sensory channels to relay messages, and receive immediate feedback. Building networks and enhancing partnerships, or interacting with various stakeholders is essential to get information across, obtain immediate feedback, and correct/modify understanding of messages. Use face-to-face communication with multi-media strategies like publications, electronic-based formats, videos, CD ROMs, and exhibits. The possibilities and combinations are endless and are limited only by communicators' imagination and willingness to think out-of-the-box.

What are some insights in communicating biotechnology? (Navarro and Hautea, 2011)

Experiences learned from communicating biotechnology through the years have given rise to several lessons. These include:

- Communication is not merely a one-way process of dishing out information to people based on the assumption that lack of understanding stems from inadequate information or that ample information can compel action. Rather, it involves social negotiation and dialogue between and among varied audiences – policy makers, academicians, scientists, and ultimately, consumers.
- In embarking on any science communication initiative, it is important to take stock of the current environment for biotech taking into consideration scientific developments, political support, role of key players vis a vis biotech, and influence of stakeholders in decision-making process. There is a need to identify issues considered most important to stakeholders, key information sources, information gaps that need to be addressed; barriers and opportunities to biotechnology acceptance in the country, among others.
- Organizations involved in communicating biotechnology should not be merely information centers. They should strive to be significant players in the development of enabling environments for informed decisions regarding the role of crop biotechnology.
- A strong and effective cadre of science communicators is essential. They are not limited to scientists and communicators but to all stakeholders who see the need for transparent and science-based discussion and debate to steer the decision-making process. Capacity building in science communication, media relations, public engagement, science popularization, and media development and production is crucial.
- There is a need to identify and nurture champions from different stakeholder groups (policy makers, scientists, academics, regulators, farmers, and the media). These

champions should be well-informed, have high credibility in the community, and are willing to advance the case of the technology among their peers.

- Public attitude towards technology is often based on values more than information itself. These values include high trust in science and the regulatory system, credibility, freedom of choice, and in the belief that humans have control over their environment. Thus, it is more effective to frame communication around a value(s) rather than on the technology.
- The availability of new media forms need to be explored in the light of different information seeking behavior among potential audiences. New media, however, have to be used without sacrificing accuracy, reliability, and objectiveness.

Network of Biotechnology Information Centers

The International Service for the Acquisition of Agri-biotech Applications (ISAAA) has a network involved in biotechnology communication – the Global Knowledge Center on Crop Biotechnology based at ISAAA *SEAsia*Center, and Biotechnology Information Centers located in Africa, Asia, Europe, and Latin America.

The Centers work together with other partners towards becoming a common voice on crop biotechnology by consistently sharing messages that are credible and compelling.

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Updated February 2020