Chapter 9
Understanding Complex Biology and Community Values— Communication and Participation

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Abstract

The production of the report *Maize and Biodiversity: Effects of Transgenic Maize in Mexico* came in response to a situation in which the products of new technologies found their way into scenarios for which they were not intended. Reactions to transgenic maize were not mediated by a process of extension, validation, and socialization of the possible risks and benefits of the technology. As a result, debates in the media and discussion forums tended to focus on the risks, perceived as having been "imposed." They lacked the balance that would have been achieved by a discussion of the potential benefits, without being offset by the potential benefits that could be of some value in the region. The controversy in the scientific community reached levels rarely seen, and this deepened the societal perception as to the overriding scientific uncertainty surrounding the problem and the existence of difficult situations arising from the complex relationship between science, technology and power.

Regionally, the climate surrounding the request for the report of the Commission for Environmental Cooperation (CEC) was marked by a lack of information and anyone to respond to questions and concerns, as well as a lack of clear public policy definition. Thus, the process leading to the production of this report is born out of a perception of risk and institutional vacuum, hence the expectation, as this chapter demonstrates, that specific recommendations will be made to address the problem. Communication has played and will play a central role throughout this process.

After the release of the first draft outline of the report, the prevailing perception in Mexico of a lack of information, answers and public participation led communities and nongovernmental organizations to request the inclusion of a chapter on communication and participation. This chapter is a response to this concern.

We approach this chapter using complementary strategies. We develop a conceptual framework and review previous experiences in Mexico and other countries; we document the information available in the region before and after the event and we interview various stakeholders. We also document the communication and information process carried out by the National Institute of Ecology of Semarnat in Sierra de Juárez. To this background we add the chapter's main component: the documentation of a research-action process in which we communicate the report's content and scope, taking note of participation-related concerns.

We define "communication" as a process whereby a transmitter transmits a message over a medium and the receiver, in turn, transmits another message that completes the feedback loop between the parties. We define "participation" as considering a problem and having one's opinions taken into account when decisions on how to solve the problem are being made. From these definitions it is clear that there can be communication without participation but no

significant process of participation without communication. Therefore, chapter 9 includes a communication process, contributing to the design of participation mechanisms.

The research-action process we carried out included five workshops on the content and scope of the North American Commission for Environmental Cooperation's report entitled *Maize and Biodiversity: Effects of Transgenic Maize in Mexico.* These workshops were held one month prior to the presentation of the report and were directed at the original submitters, other producers, organizations, technicians, academics and persons with an interest in maize issues. At these workshops we presented a synthesis of the abstracts prepared for us by the authors, using the versions available as of 5 February 2004. The workshops were attended by 170 people, 128 of whom stayed until the end. There were three men for each woman; the breakdown by sector was relatively equal but biased by region; not enough producers were present and the underrepresentation of youth (under age 30) was evident. At each workshop, the background to the process was presented. Prior to the content presentation, a communication exercise was done based on photographs whose content the participants had to transmit among one another. The key point of this exercise was to observe collectively that for a given content (the photos) or event (e.g., crossing of transgenic maize with native varieties), one's personal history affects the way they will see and describe things.

Since modern biotechnology is a complex set of techniques derived from discoveries and knowledge generated in the last 50 years, the concepts and practices developed are new to most people. To address this problem in the context of the workshops, supporting graphics were prepared, including 19 photos and drawings about different aspects of maize biology, with the goal of associating a "true" picture with a new word as clearly as possible. Problems of scale, language, idiom and cultural context were discussed.

In examining the chapters, it became clear that scientists, too, communicate their knowledge and, in doing so, their own background and history affects the results of their communication effort; there was discussion as to the relative nature of scientific "truth" and the fact that it is constantly being revised and updated.

In terms of communication and participation we can state that for the chapters describing the current state of knowledge (1, 3, 4, 5 and 6) special efforts of synthesis, adaptation of language, and graphic support (photos, diagrams, maps) are needed. In the chapters dealing with ways of addressing the problem and designing mechanisms to manage, avoid and reduce the risks (2, 7, 8, 9 and 10) it is necessary to derive specific recommendations about what to do, in daily farmwork, to reduce the risks, as well as participatory decision-making processes that include those who feel most directly threatened by transgenic maize. We met with skepticism as regards a scientific discourse that presents few unqualified statements and many conditional ones, possibilities rather than certainties. The two key expectations vis-à-vis the report are to find in it specific statements about harm to health, and the crop upon which to base practical recommendations for people, organizations and governments. There is a perception that most of the discussion up to now has taken the form of possibilities and not certainties. Since it was written by scientists, the report evidences the need for new research into the potential effects of transgenic crops, but it is unclear from where the resources to do this will come.