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DIALOGUES

The Shaping of Biotechnology in Southern Africa

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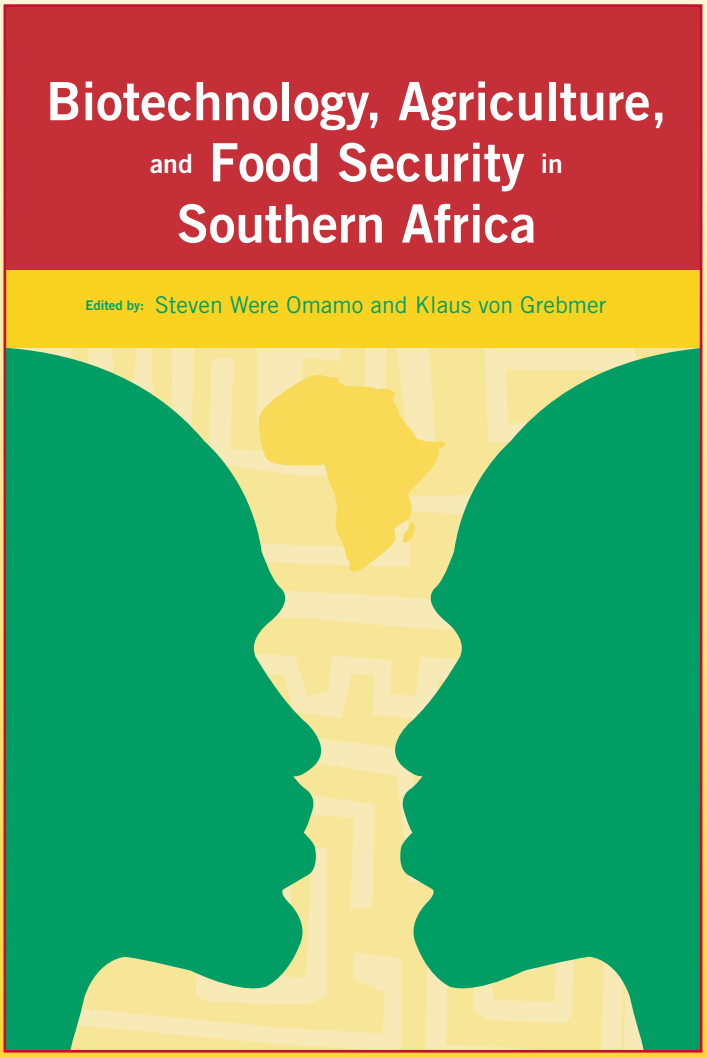
In 2002, small domestic food supplies combined with strained domestic markets threatened to leave millions of people across southern Africa at risk of starvation. A similar combination of poor weather, policy failures, and market failures had left millions of southern Africans similarly exposed a decade earlier. But the food emergency of 2002–03 was different in one crucial respect: Thousands of tons of food were available to help cover shortages. Yet because it contained unspecified amounts of genetically modified (GM) grain, this food was considered suspect—or even poisonous—by some governments, unsure of the implications of GM food for human health and the environment.



In the short term, this caused a crisis among partners in national and regional food relief and raised the political temperature. The presence of GM food made a range of basic tasks more difficult, and officials had to hammer out ad hoc protocols under significant pressure. How, for instance, was Malawi to move maize donated by the United States (containing GM corn) through Tanzania in the absence of complementary biosafety protocols in the two countries and without the machinery to conduct tests?

In the long term, this crisis underlined the need for a regional dialogue and ultimately sparked a regional initiative that has come to be known as the African Policy Dialogues on Biotechnology (APDB).

Motivated by increasing regional and international concern regarding agricultural biotechnology's role in agriculture, trade, food security and development in southern Africa, IFPRI joined in 2003 with the Food, Agriculture, and Natural Resources Policy Analysis Network (FANRPAN), based in Harare, Zimbabwe, to encourage dialogue on policy issues surrounding agricultural biotechnology research and trade in GM products.

IFPRI and FANRPAN outlined and managed a highly participatory process involving high-level policymakers, senior representatives of a range of stakeholder agencies, and respected scientific leaders, who came together for an integrated series of roundtable discussions. The initiative is distinctive for having an explicitly process-based perspective in a framework involving many stakeholders. The first of three policy dialogues took place in April 2003 in Johannesburg, South Africa. A subsequent dialogue took place in Harare, September 20–21, 2004; a third is planned for 2005.

In selecting topics for the first dialogue, IFPRI and FANRPAN identified five areas in which governments are required to make new and unfamiliar choices in order to regulate agricultural biotechnologies: intellectual property rights, biosafety, trade, food safety and consumer choice, and public research.

The background papers on these topics are collected in the IFPRI–FANRPAN book *Biotechnology, Agriculture, and Food Security in Southern Africa*, which represents an important step along the way to ensuring that biotechnology policies can facilitate increased food and nutrition security on the continent.

THE CONTROVERSY
DIFFERING PERSPECTIVES

Biotechnology, like a host of other complex and multidimensional issues in the development field, has been characterized by marked conflict between different ethical and ideological perspectives. The implementation of agricultural biotechnology for food and feed production stimulates considerable controversy the world over, with strongly conflicting views not only about the technology itself but also about the ethical questions involved. What has contributed to making the differences so entrenched are the profound uncertainties regarding who will benefit and who may lose from the technology, what its unforeseen consequences may be, how long it will take for the impacts to be discovered, whether the effects can be known before irreparable harm is done, and who will make the decisions. Such complex and multidimensional policy disputes typically involve a high degree of scientific uncertainty, long time horizons, and decisionmaking at multiple jurisdictional levels and call for a wide range of political, economic, social, and scientific considerations.

With these questions remaining by and large unanswered, different deep-seated beliefs about technology, nature, the global order, and the meaning of development on the part of the various stakeholders have come into play, increasing the intensity of the dispute and making it seem irreconcilable at times.

Biotechnology, Agriculture, and Food Security in Southern Africa identifies the different worldviews that are a source of conflict when discussing biotechnology. Among well-informed people, opinions split according to disciplinary approach. There is a clash of ethical worldviews that pits modernism against postmodernism. And the North-South political perspective creates another source of conflict. It is important to remember that these uncertainties and controversies surrounding the role of biotechnology in agricultural development and food security are not limited to one region; they are global in scope.

Moving toward consensus on the issues will require exploring and finding some common ground between these deeper and more powerful notions, which in large part form the identities of those who hold them.

PRIORITY ON THE PROCESS

To this end, the importance of the methods used for reaching consensus and involving as many of the affected parties as possible should be emphasized. The aim of the dialogue should not be to develop consensus, but rather to agree on the nature of the process that the countries and the region as a whole need to adopt to move toward consensus. Encouraging strong communication, sharing information, and developing trust among the participants will better enable them to withstand differences that emerge.

Ultimately, governments in the Southern African Development Community (SADC) region and their development partners have the potential to expand existing dialogues at the national and the regional levels and to initiate new ones. Paying more attention to the process and to building relationships than to outcomes is important because no single, unified approach exists that can be adopted in all contexts.

POLICY ISSUES

As the southern African countries ponder whether to adopt biotechnology for food security and poverty alleviation, they will have to answer a number of questions. They will need to determine individually, given their economies, what needs biotechnology can meet and what crops should be targeted or what traits developed. Genetic engineering technologies and the systems to ensure their safety need substantial financial investment and capacity, and countries are best advised to invest in areas in which they have sustainable competitive advantages or in areas that address their priority food security needs.

Another question for the countries of southern Africa to ask is this: If there is weak commitment to providing the types of programs and the quality of governance necessary for the adoption of GM to generate benefits, will it make sense to pursue the application of biotechnology for food security and poverty alleviation?

There are essentially four challenges that must be met by a multistakeholder dialogue in southern Africa, or by any such process: ensuring that all the relevant parties are involved in negotiations, getting accurate scientific and technical information on the table, promoting links with official decisionmaking bodies, and establishing fairness and efficiency as criteria for evaluation of the processes.

In addition, policymakers will need to address a range of issues, specifically, access to information, research priorities, biosafety regulation, intellectual property protections, and trade.

Information Needs

The decisions of participants in multistakeholder dialogues and policymakers on the use and safety of agricultural biotechnology must be based on credible scientific information that all the stakeholders accept as valid. A key problem in the debate over biotechnology is the existence of false information and misrepresentations. In the absence of accurate information and the dialogues that help stakeholders to achieve consensus, conflicting claims arise, which only makes decisionmaking more difficult. More information on biotechnology, both for the dialogue members and for society as a whole, would build greater awareness and understanding of the issues and facilitate agreement and sound policymaking. Two general types of information would benefit the dialogue: information on the technology itself and information on how the dialogue could increase awareness and participation and improve information sharing among its members.

Working toward solutions will be easier if participants use a process of "joint fact-finding" to produce a common understanding of the likely effects, benefits, and costs associated with alternative policy options. Supplied with the available knowledge on the issues, eventually the dialogue process itself will generate information by monitoring research activities or policies implemented.

Research Priorities

The most critical information southern African stakeholders and policymakers need is on the benefits and risks that biotechnology would bring to their region, and only long-term scientific research can provide answers on these issues. Short- and medium-term action is needed for food security in the region, but long-term research is needed, too.

A dilemma the dialogue participants will face is that while the process is gradually moving forward there will be measures that they will have to adopt, or issues they will need to address urgently, including those regarding biosafety and trade issues that relate to GM crops and foods.

The ethical issue of the need to address the hunger that exists today cannot be avoided. However, there are currently knowledge gaps related to GM crops and biosafety, making uncertainties pervasive. A stakeholder dialogue can guide the research process and form a more effective link between the dialogue and policymaking.

All stakeholders have different questions that they want answered. By taking these questions and finding ways to jointly frame them for the research community, dialogue participants can generate the information they need to reach consensus on policy measures.

Biosafety Regulation

One critical problem that was exposed in the debate over GM food aid is that the majority of countries in southern Africa lack the regulatory and scientific assessment structures necessary to take decisive steps on biotechnology. Only three countries in the region—Malawi, South Africa, and Zimbabwe—have legal mechanisms for biosafety.

Clarifying national guidelines among the different ministries involved is a step that must be taken first. Countries in the region should harmonize their policies and procedures for standard setting and enforcement, risk assessment and management, prior informed consent, and information and documentation.

Intellectual Property Rights

In the southern African region there appears to be a lack of appreciation of the role of Intellectual Property Rights (IPRs) in development. Governments in the region therefore ought to clearly define the level of protection they want to provide for biotechnology innovations and consider conforming to the provisions of the Trade Related Aspects of Intellectual Property Rights agreement should they decide to procure technologies.

For their own benefit, they will also need to decide on the desired extent and use of IPRs and determine the cost implications. There is a growing need for partnerships and collaboration among southern African institutions and multinationals in the area of technology transfer, which could enable research on crops important to the poor.

Trade

Trade in GM crops and food, which may play a significant role in food security, makes the formulation of biosafety regulations urgent.

People in southern Africa eat unique foods, use unique food processing methods, and rely on staple foods, such as maize, for the majority of their caloric intake. And the high prevalence of morbidity, malnutrition, and compromised immunity due to HIV needs to be considered when testing GM products in the region.

Different consumer preferences in the world regarding GM foods—and the environmental, food-habit, social, and health conditions in southern Africa—indicate that it would make the best sense for the SADC countries to develop biosafety and trade policies that suit their respective needs, despite pressure from the WTO to conform to its guidelines.

It is within the SADC's interests for member countries to act as a cohesive group and participate fully in areas of mutual interest during negotiations of international agreements, especially the WTO agreement. If they could influence the world trading system overall, countries in the southern Africa region would not have to rely solely on preferential market access opportunities alone.

CONCLUSION

The food crisis of 2002-03 highlighted for governments across southern Africa the importance of coordinating their policies for regulating biotechnology—both research and the products that result. As biotechnology continues to shape agricultural production and trade, the need for governments to have strong yet flexible policies in place can only be expected to grow. Information about various technologies, products, and the impact of different policy approaches will inform these policy decisions. And each country will need to make a commitment to research in order to acquire the information most pertinent to its own situation. The themes outlined here set the stage for the important dialogues—those held both internally and between countries—that will give shape to policies addressing biotechnology in the region. It is hoped that these efforts and the ongoing public debates they inspire will produce greater transparency, higher quality dialogue, and better policy and benefit stakeholders at all levels.

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